

Business Evolving in the Information Age

darwin

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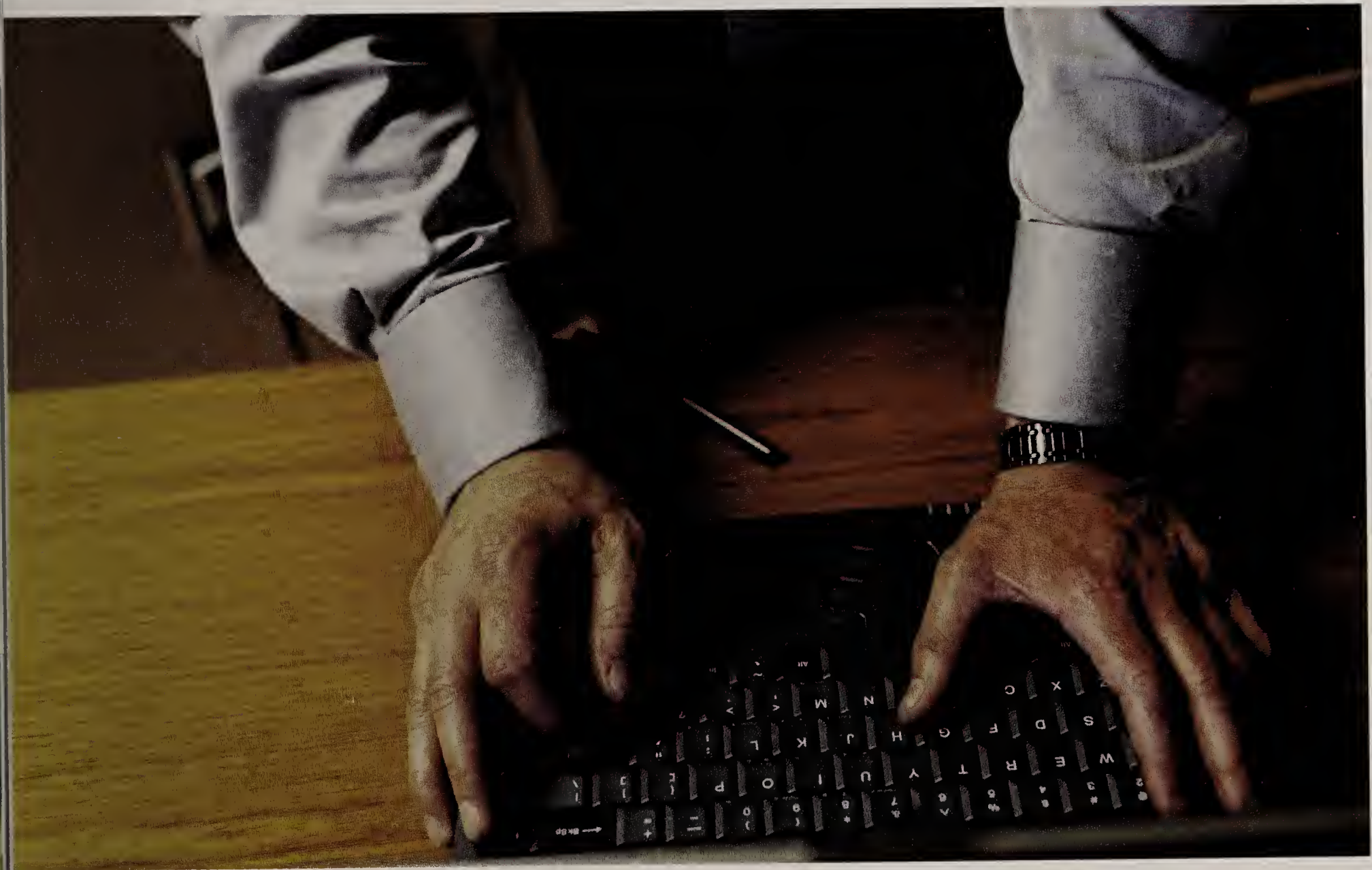
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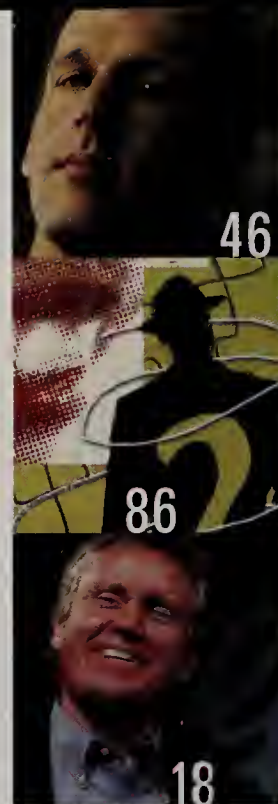
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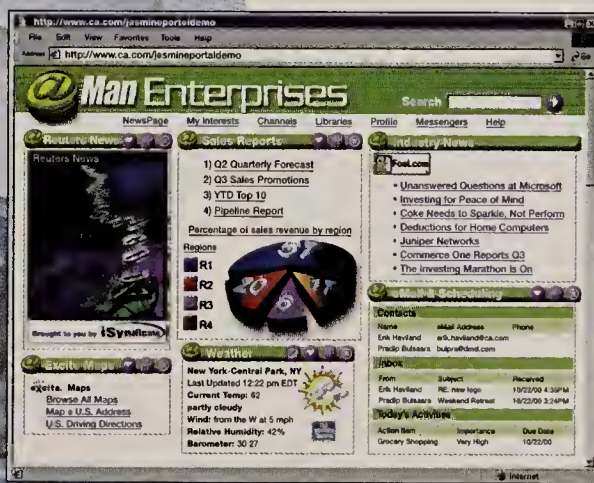
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Guru Guide

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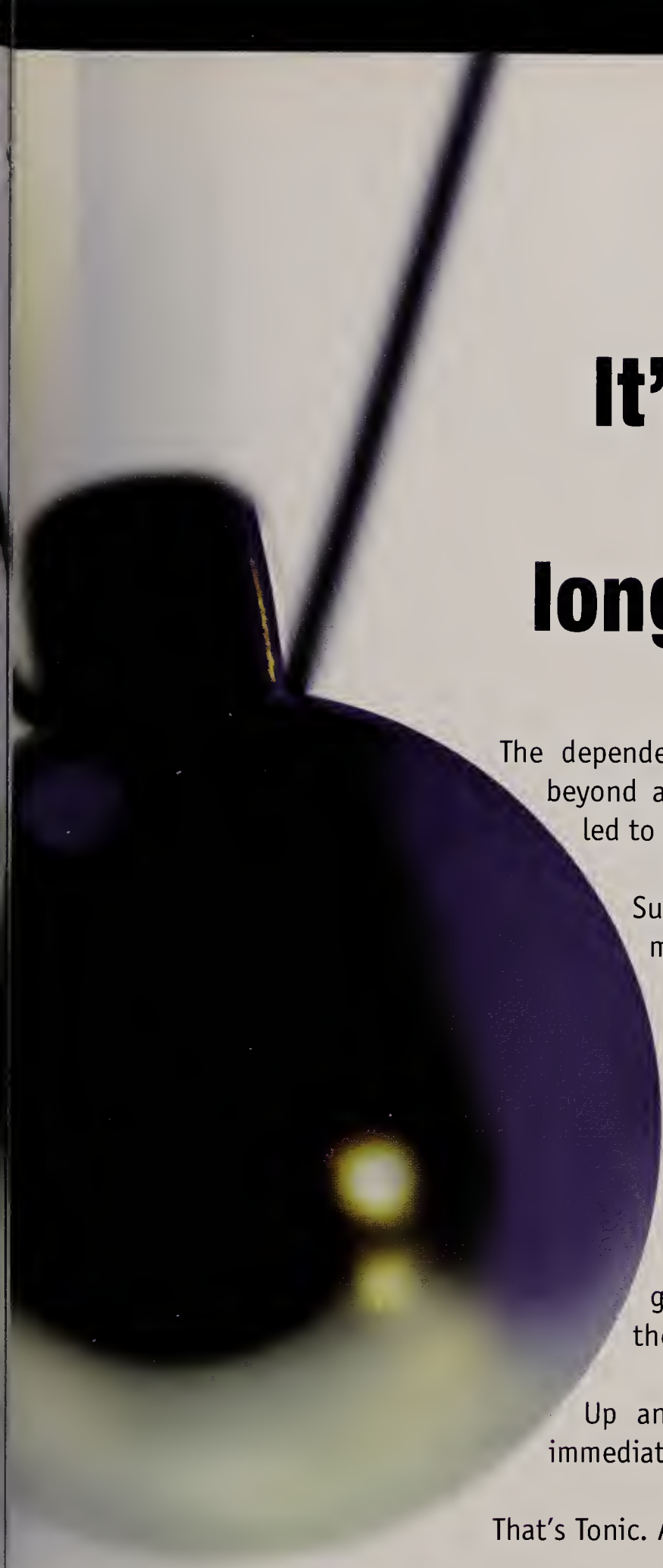
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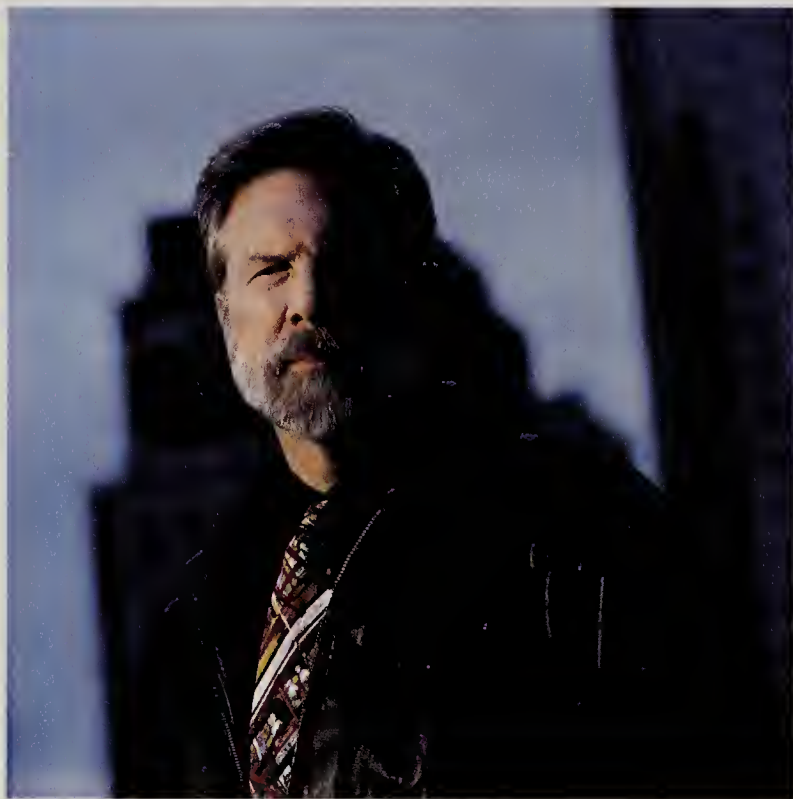
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Vote Like a Butterfly, Swing Like a Chad

Lost in the indigestion of the nation's long November nightmare was the buoyant opportunity the Florida vote presented to Jakob Nielsen and his acolytes in the so-called Web usability movement. "Usabilistas" are devoted to the idea that the design of websites ought to be governed less by the creative self-indulgences of temperamental geniuses and more by what site users really want and need. That, at least, is how the debate around usability is cast.

Anyhow, there's nothing quite like a butterfly ballot to focus people's attention on lame design. Nielsen clearly reveled in the fallout: If this wasn't a usability problem, what was? And like lots of errant design, the ballot snafu went undiagnosed until actual humans started to vote (or not, as the case may have been).

Everything Nielsen believes about Web design he learned by studying people's behavior. No reliable judgment can be rendered about the excellence of a site until someone has observed it in use. This is the crux of usability: It is powered by hands-on anthropological research

rather than, say, by focus groups. In other words: "Watch what I do, not what I say."

A rigorous discipline grew out of Nielsen's years at Sun Microsystems, where he worked on various iterations of both Sun's external website and its world-class and pioneering intranet. Nielsen's background is not as a designer; it is as an information architect. With architect Louis Sullivan, Nielsen holds that form follows function, and not the other way around. He disdains as bad Web design the graphical flourishes that—worse than merely existing for their own sake—are disconnected from any empirical understanding of their impact on user experience.

Some designers lament that the growing influence of usability as the governing precept for site design will lead to websites that too closely resemble one another. "That may be true," says Nielsen. But if the result is a happier user experience, then a little homogeneity may be a price worth paying. Likewise, there is much chafing over the stain of rule-based dogmatism that attaches to usability.

Still, Nielsen has given voice to an idea that no accountable executive can safely ignore: If you don't bake some usability research into the creation of your website, then it may be a butterfly ballot just waiting to happen. Does Nielsen have your vote? Let me know at mccreary@darwinmag.com.

Lew McCreary
Editor in Chief



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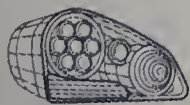
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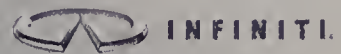
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NEWS, VIEWS AND THE HUM OF BUSINESS

Edited by Todd Datz



E-Mail Used to Stink; Now It Smells

NET SCENTS Imagine sending your significant other an e-card with not just the image but the smell of a dozen red roses. Or, how about treating your annoying cousin to both the vision and the odor of Patrick Ewing's socks after four quarters of posting up Tim Duncan.

Sounds like something out of a John Waters flick (anyone remember *Odorama?*). But scratch-n-sniff e-cards, Internet ads and video games will soon be reality with digital-scent technology from DigiScents, a privately held company in Oakland, Calif.

Here's how it works: A scent is digitized based on its molecular composition and its interaction with neuro-receptors in the brain. The result is a digital file that can be embedded into video games, MP3 files, e-mail, Flash animations and streaming media. The end user needs DigiScent's iSmell, a computer accessory similar to a set of speakers, which synthesizes the smell from its palette of "primary odors" and

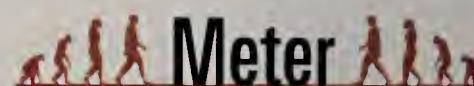
blows scented air out at the user.

The iSmell unit isn't available yet—DigiScent expects to release it sometime in 2001. The company has been coy about pricing so far, saying only that iSmell's retail price would be comparable to other computer accessories such as speakers. DigiScent has big plans for the technology, predicting it'll be a big deal in online advertising (the company already has a strategic relationship with Procter & Gamble). And DigiScent CEO **Joel Bellenson** says that interested food and beverage, household product and cosmetics companies have been sniffing around.

Meanwhile, DigiScent is launching Snortal, a scent-enabled portal where you can send scented e-mail, register your own smells and create Scent-Tracks for your favorite movies and music. "We want to become the Napster of smell," says Bellenson.

—Eric Berkman

The Darwin Meter



EVOLVING	UNEVOLVING
George W. Bush (hits pay dirt)	George of the Jungle (hits head)
The Alex Rodriguez contract	Planet of the Apes (five of the same)
Chocolate consumption on Valentine's Day	Neal York's (smelly) pen (a love symbol)
Silicon Valley execs building vineyards	Good Will Hunting
Katie Couric	Bryant Gumbel
Robotic pet dogs	Dog has on your couch
Fondue	Pizza



Immelt's ascension at General Electric



The odds of him maintaining Welch's growth rates



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FILL 'ER UP Bruce Barquist of General Mills is using the Web to share information about truckload capacity.

cent when it can guarantee that it won't leave a shipper with an empty truck, according to **Bruce Barquist**, the company's director of supply chain strategy development.

Prior to using the Nistevo network for capacity-matching, General Mills relied on phones and faxes to communicate with its carriers and other companies to try to fill up trucks on established routes. But it was impossible to coordinate matches on spur-of-the-moment shipments, says Barquist. Web-based spot transportation markets held no appeal since General Mills didn't want to hand off a truckload of

Haulin' Oats

INTERNET LOGISTICS Next time another 18-wheeler barrels by you on the interstate, consider this: One in five of those tractor trailers is probably empty. Why? Because whoever hired those trucks to ship goods from point A to point B didn't have anything to pick up once the truck unloaded its haul—and couldn't find anyone else who did.

A Minnesota-based company aims to use the Web to attack what amounts to a \$30 billion-a-year inefficiency in the United States. Nistevo, headquar-

tered in Eden Prairie, Minn., has launched a "collaborative logistics network"—that is, a subscription Internet service that lets shippers (the folks who need to move the product) and carriers (the folks who own and run the trucks) share information about upcoming runs so that they can exchange capacity on each others' empty rigs. Keeping trucks full on every part of their routes is far more efficient than hauling around dead air in between stops—that's why carriers charge shippers lower rates for shipments if the trucks run full on the back haul. General Mills, for example, saves anywhere from 10 percent to 30 per-

cent when it can guarantee that it won't leave a shipper with an empty truck, according to **Bruce Barquist**, the company's director of supply chain strategy development.

General Mills is expected to start using Nistevo's network this month. (It has been using it to manage its contracts and trace its freight for about a year.) Other companies that have signed on to use the network include Agilent, Coca-Cola, Hormel, Nabisco and Nestle. "There isn't any reason you can't send a truckload of Wheaties across the West Coast and come back

with a truck full of electronics," says **Rick Parker**, vice president of marketing at Nistevo. Nistevo charges shippers and carriers a subscription fee to join the network; the average fee for a shipper is about \$250,000 a year, Parker says. That may sound steep. But compared to the hundreds of millions of dollars these companies spend annually on trucking, it's small change, Parker says, especially if Nistevo can help deliver the savings on logistics costs that it expects its members to achieve.

—Sari Kalin

This Is Your Brain on Phones

RADIATION WAVES Few executives go anywhere these days without that staple of 21st century commerce—a cell phone—in tow. But news reports suggesting possible links between cell phone use and memory loss, headaches, fatigue and even brain cancer have many mobile communications addicts worried. Industry leaders are quick to point out that no studies have conclusively tied the electromagnetic radiation (EMR) emitted by mobile phones to health risks, but health advocates insist that it's too soon to rule out the possibility. Virtually everyone agrees that more studies are needed.

In the meantime, more than 100 million potentially anxious U.S. cell phone users represent a

lucrative target market for products promising to minimize exposure to EMR. For example, Calgon Carbon Corp. (www.wavezorb.com) claims that its \$9.95 WaveZorb product, a small disk of carbon cloth that attaches to a phone's earpiece, blocks up to 99 percent of microwave radiation. SV1 of Boca Raton, Fla. (www.safetshield.com), says that its \$19.95 SafeT-Shield, a small oval of polycarbon metallic fiber, filters up to 99 percent of EMR. Protect-O-Cell (www.protect-o-cell.com) offers a similar earpiece device as well as a \$39.95 leather phone case lined with a radiation-absorbing fabric.

But some critics caution that such devices may actually increase exposure to radiation by forcing

phones to emit more energy to communicate with phone towers. "There's still some controversy, but all smart money says the only product worth anything is a hands-free set," says **Louis Slesin**, editor of *Microwave News*. "It puts distance between the head and the antenna, and every millimeter counts."

—Alice Dragon

SAFETY TIPS

The following may help limit exposure to electromagnetic radiation from mobile phones. If you're still nervous, keep your blood pressure in check and use a regular, land-line phone.

Hold the phone away from your head Use an earpiece or headset **Keep cell phone conversations short** Pull the retractable antenna out as far as it will go **Hang up** when you've got a bad connection (the phone emits more radiation if it's struggling to maintain a connection) **Limit use of cell phones by children** In your car, use a cell phone with an outside antenna



Negativity Buster

RAY PELLETIER is a motivational speaker whose clients include Fortune 500 companies, college sports teams and the armed services. Pelletier gained fame as a motivational guru to the University of Florida's basketball team during its run to the 2000 NCAA championship final.

Darwin: What are some of the issues you deal with when working with companies?

Change, senior management and corporate culture programs. The biggest issue facing corporate management today is that there are a lot of great managers, but they're not great coaches. Managers manage process and things; coaches lead and teach people.

What is a coach? We used to say a coach is a loving guide. Now a coach is a learner who teaches. But the missing element in America today is that we don't teach people how to do things. We're so busy that we fail to do what we are paid to do—develop a team that can increase sales, improve customer service and improve the bottom line. Those are the three functions of business. Those are people issues.

You say that negative thinking is a cause of poor management. Explain.

Unfortunately, corporate America is run by quarterly results. Senior management obsesses so much with delivering to stockholders that managers are subjected to a certain amount of negativity, and it rolls downhill. Senior managers don't realize

companies understand the agony of defeat, but not the thrill of victory.

What is the championship ring in your company? What do you do to honor and celebrate your wins? How are we recognizing people for going that extra mile and wowing a company? Ninety-five percent of the managers I've worked with are focused on numbers, not people. When you talk about camaraderie and team, people call them soft skills, which many perceive as weak. That's wrong.

How do you get seasoned, hardened executives to buy into your motivational gimmicks?

What I do is try to bring them back psychologically and mentally to their childhoods and ask them who their best and worst coaches were. It could be a parent, a boss or a teacher. They reflect on who their best and worst coaches were and then analyze why. It's important to find coaches you can emulate or find a coaching style you like.

—Todd Datz

"The missing element in America today is that we don't teach people how to do things."

—RAY PELLETIER

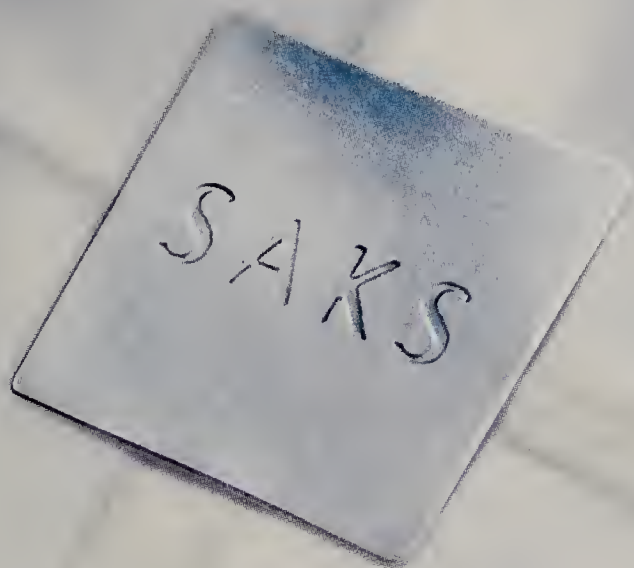
they're often projecting negatively to their culture. It's the biggest problem facing corporate America.

How can managers overcome that mindset?

Normally, corrections in companies are based on negativity. If there's something wrong, I get a report on it, and I beat up a production or marketing or sales guy. Most



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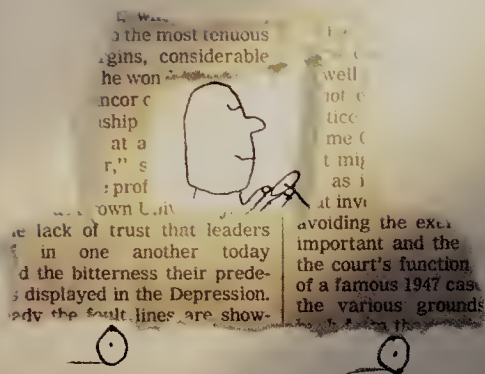
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The Computer Industry Is About to Fold

MATERIALS SCIENCE

It's 2005. As traffic grinds to a halt you look with envy at the driver next to you. She's reading the day's headlines on a computer screen on her windshield. Not too safe, you think, but man, that's cool.

Ghassan Jabbour, a professor of optical sciences at the University of Arizona, and fellow scientists are working with transparent plastic materials that will allow us to fold and roll up monitors. (The ability to fold and pocket your hard drive may come later.) The researchers are also looking at materials such as polyester and flexible stainless steel. Plastic seems particularly promising for monitors. After all, "if you want to put the monitor on your windshield you'll also want to see the traffic," says Jabbour.

—Kathleen Carr

Out with the Old, In with the New

INNOVATION PAYS The latest results from an ongoing study by consultancy Kuczmarski & Associates show that innovation plays an important role in long-term corporate growth. In fact, 78 percent of the "best" companies surveyed (the definition of "best" was determined by self-rated financial scales and a greater than 60 percent rate in new offerings) believe that new products and services have a positive impact on their shareholder value. According to **Tom Kuczmarski**, president of Kuczmarski & Associates and a professor at Northwestern's Kellogg Graduate School of Management, "Companies that have undertaken innovation as part of their core business strategy understand the impact new products and services have on earnings, which in turn drives return on equity which in turn drives stock price."

The study identified six keys to unlocking innovation success:

1. senior management commitment
2. clear-cut strategic and financial goals
3. a customer-based, companywide system
4. a culture that encourages risk-taking entrepreneurs
5. the ability to measure results
6. cross-functional teams

According to the study, most companies have these six keys in place, but only the most innovative companies use them more effectively. Kuczmarski says the goal of his

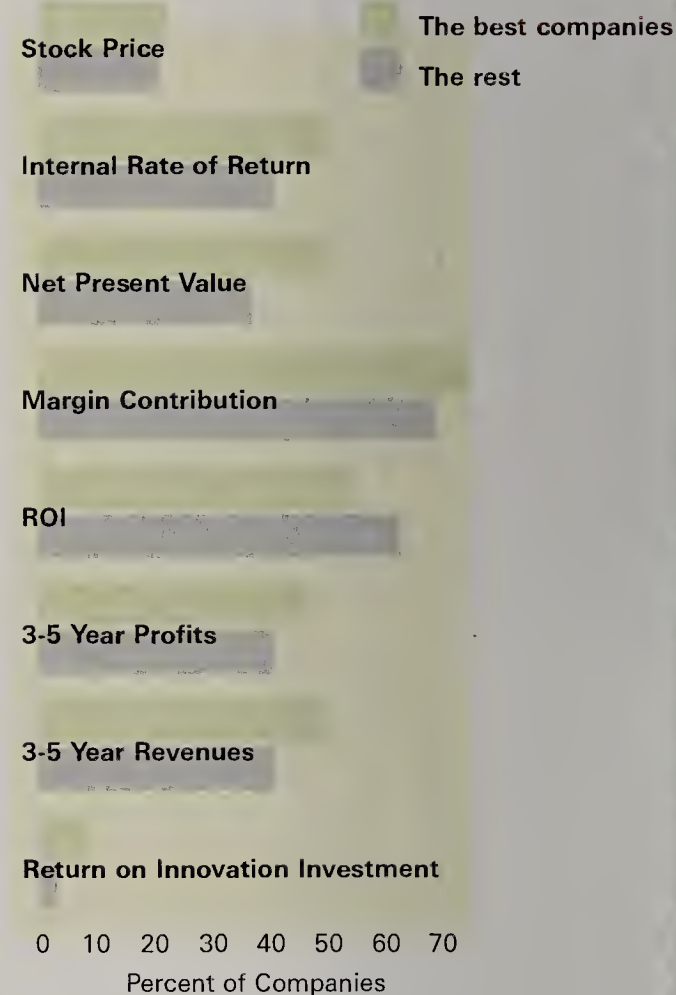
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70%
the best
40%
the rest

Percent of Companies that Receive Consistent Senior Management Support and Commitment

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CHART A
Financial Metrics Used to Evaluate New Product Success



208 PRODUCT AND SERVICE COMPANIES WERE SURVEYED.

ongoing study is to discover best practices from the companies considered successful innovators. He cites, for example, credit card giant Capital One, which performed extensive data mining to gain customers. Kuczmarski also praises manufacturer S.C. Johnson, which pumps out a continuous stream of new products. "They're now the largest candle maker in the country, and they didn't even have candles a few years ago."

Other key findings from the study include the importance of using financial metrics to evaluate new product success (see Chart A), and the critical role senior management plays in making innovation a top priority (see Chart B).

—Todd Datz

dreams made real.

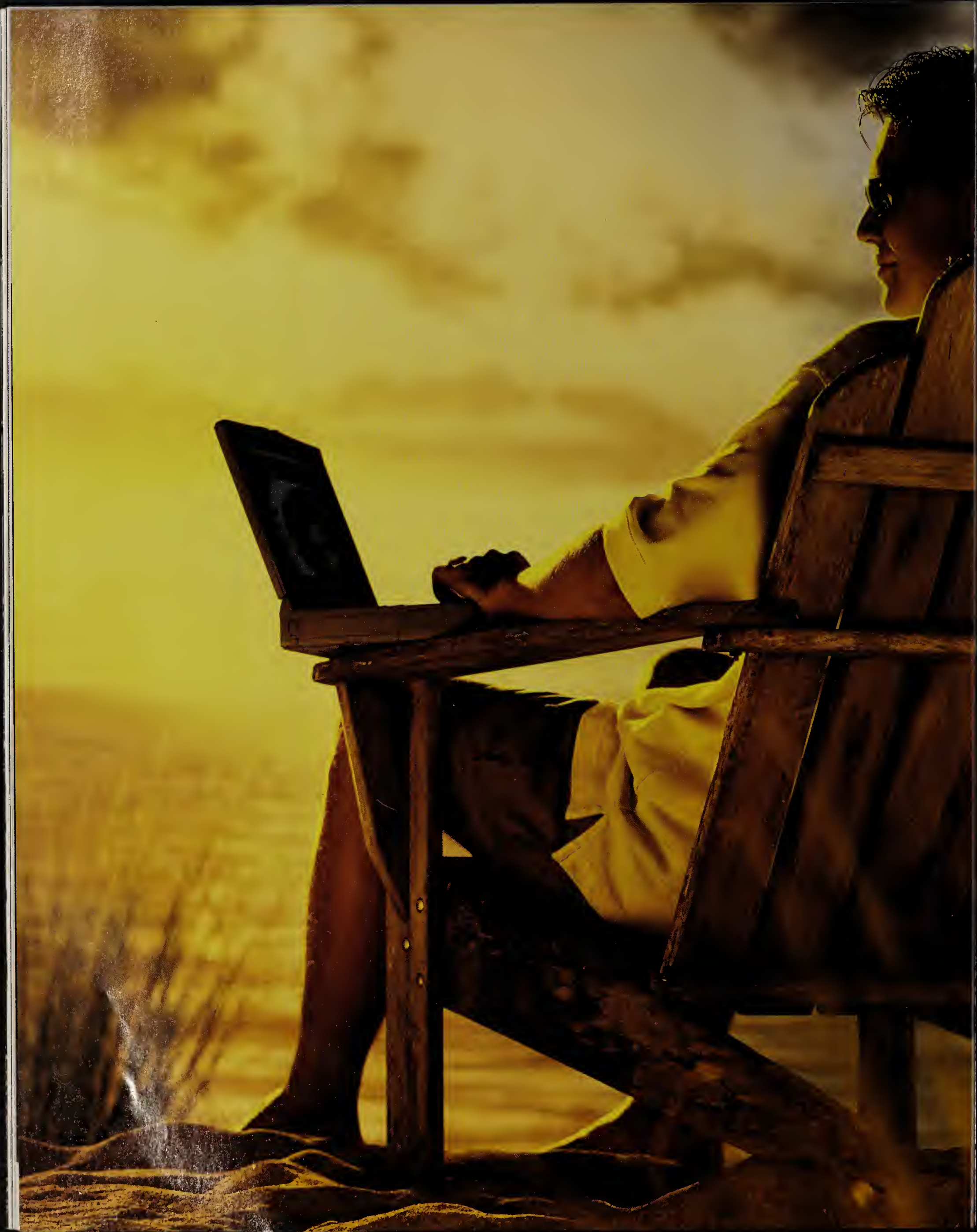
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Final Frontiers

Think your company has already mastered the Web? Think again.



In 1893, historian Frederick Jackson Turner studied the data from the recently completed 1890 U.S. Census and arrived at a surprising conclusion. The American frontier—what Turner called “the meeting point between savagery and civilization”—seemed to have disappeared. There was no longer a clear line in the West that divided settled and unsettled territory. So in an important essay called “The Significance of the Frontier in American History,” Turner pronounced the frontier dead.

Is it time to do the same for the Web’s leading edge? Do companies know enough about the Web and what it can do for their businesses and customers that it’s time to tame it, integrate it and turn it into just another function? Is it safe to stop worrying about disruptive technologies and rapacious competitors, now that many pure-play dotcoms have started sucking wind?

Some anecdotal information I collected late last year indicated that yes, plenty of midsize and large companies were getting complacent about the Web. They were viewing the Web as a settled space and abandon-

ing the “manifest destiny” ethos of the early Web—“We don’t know what’s coming next, and it’s always important to be trying new things quickly and cheaply.”

A friend of mine, who was one of the original members of the e-business group at a major pharmaceutical company, told me her company had put up a brochureware site and decided it was done. E-business became just another function, with no room to innovate. “If the company was two years ahead,” she said, “it might be OK to turn it into a function, but now it’s just frozen in place.” Instead, she suggested, the company should be trying things like communicating with potential customers during the clinical trials and FDA testing of new drugs, or using handheld devices and the Web to help sales reps explain new drugs to doctors.

At a Boston-area market research company, another friend reported that a steering committee of top executives was micromanaging the Web group, to the point of weighing in on colors and fonts. The result: Many of the most creative people departed, and the rest were completely demotivated.

Finally, four acquaintances who had constituted the entire E-Commerce Strategy Team at Toyota Motor Sales, the U.S. marketing arm of the Japanese manufacturer, left last January. Why? Because the team ran into too many barriers erected by middle management, which was openly hostile to the team’s vision about how relationships with dealers, distributors and customers needed to change.

Two questions began to take shape in my mind. First, can we declare the Web frontier settled and secured in 2001? And second, how can companies balance their sensible desire to integrate the Web group with the rest of the company, giving it concrete goals and holding it accountable, with the need to encourage continuous innovation?

It’s obviously important to make sure the team that runs your corporate website (your intranet and extranet too) has clear goals and metrics to track its progress. But I couldn’t find anyone who said that new development



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should be sacrificed in the name of accountability, or that their company already has a perfect grasp on everything the Web can do for their customers.

"You may get what has happened with the Web so far, but that's history," says Peter Dames, director of e-commerce at Paccar, a Bellevue, Wash., company that makes DAF, Foden, Kenworth and Peterbilt trucks. (He is also the former leader of the E-Commerce Strategy Team at Toyota.) You've got to have a team of intelligent individuals who are thinking about the future."

Plus, we haven't seen the last of the dotcom startups that will threaten established businesses. "The next generation of dotcoms is going to be leaner, meaner and

"What you think is a leadership position on the Web can be overcome in a couple of months."

—AL LENZA, VP OF DISTRIBUTION PLANNING, NORTHWEST AIRLINES

much smarter about the way it does things," says David Wechsler, general manager of Boston's Razorfish, a Web design company.

Given that the Web isn't done evolving and you'll likely see even more aggressive dotcoms enter your territory, how do you balance the need for accountability with the imperative to keep thinking about what's next?

At Northwest Airlines, Al Lenza, the vice president of distribution planning, explains that it's crucial for the e-commerce group to work closely with the rest of the organization. "We recently started letting customers print out their own boarding passes at home," Lenza says. "That required the cooperation of all of our airport personnel." And there are clear metrics by which the e-commerce team's progress is tracked—for example, how much incremental revenue is the team bringing in with its online-only travel promotions.

Yet Lenza believes that "what you think is a leadership position can be overcome in a couple months." In the 30-person e-commerce team, smaller groups meet regularly to talk about improvements to NWA.com and new ways of interacting with customers. One such group meets every two weeks to talk about wireless applications, like using a cell phone to rebook a flight. New projects get a green light if they'll save money, bring in additional revenue or increase loyalty.

The same criteria apply at Federal Express, where it

never stops thinking about how to use the Net to reduce call center costs or to improve the efficiency of its field sales force. "It costs us two bucks to handle a customer with a human rep on the phone," says David Roussain, FedEx's vice president for e-commerce marketing. "It costs from 6 to 7 cents to do it online. Until we've moved everybody to the Web, our job is not over."

One of Roussain's colleagues challenged me on the issue of whether or not accountability and metrics are necessarily in opposition to creativity. "At the end of the day, our employees want creative latitude, but they want to know they've contributed to something," says Lisa Short, FedEx's managing director of e-commerce solutions. Short's argument convinced me. Yet I still worry that too many companies don't follow FedEx's example and are instead turning the Web into a routine function, turning off the taps of creativity and inventiveness.

While Web staffers at FedEx and Northwest Airlines combine day-to-day responsibilities with long-term planning, at Paccar and Hewlett-Packard, separate groups think about what's next. Olivier Kohler, a general manager for consumer relationship management at HP, says HP rotates employees through its "futures" group so that not every Web team member is stuck with the mundane short term.

I think both approaches are viable—a separate futures group or a way that day-to-day Web staffers can set aside time each week to think about what comes next. More important is high-level support and funding.

The most pressing questions for your in-house futurists: What new technologies and modes of communication might improve your relationships with customers and business partners, or might possibly make or save you money? It doesn't have to be likely that these new technologies and modes will pay off—it just has to be remotely possible. We're talking about the future here. Seeking certainty is pointless, and it's not nearly as much fun as playing with possibilities.

"The landscape is changing so rapidly, and so are customer expectations," says Kohler. "That means we need to stay on our toes all the time. We haven't seen everything the Web can do or everything people expect the Web to do."

The frontier, in other words, is still alive and thriving. Deny it at your own risk. ■

Scott Kirsner writes about the Web frontier for *The Boston Globe* and *Wired*. He can be reached at kirsner@att.net. Send column ideas and comments to ecosystem@darwinmag.com.

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The Ties That Fund

Investors and entrepreneurs troll the groves of academe for investment opportunities



Old school ties sound very old economy to us, but they have adapted surprisingly well to the new world. The difference lies in scope: Instead of a gaggle of ex-frat members trading stock tips in the squash club locker room, alumni can now contact each other globally over the Web. So it's not really that surprising to note the advent of UniversityAngels.com (UA), an online community that matches angel investors with fellow alumni looking for startup funds.

The idea popped in the heads of three Harvard Business School (HBS) '94 alumni during their fifth reunion. Many of their friends had gone into investment banking and consequently were awash in cash, says cofounder Richard Sasner. "They were all lamenting that it was very hard to come by good deals as an individual investor." On the other side of the coin, he says, were his HBS buddies who had great business plans but had already run through the "friends and family" round of funding. "Venture capitalists are so flush with cash these days," he says, "they don't have time for the smaller deals."

So Sasner, along with cofounders Charles Sanford

and James Marcus, immediately set to work on a venture capital (VC) matchmaking service that harnesses alumni ties from top universities. Their first site was, not surprisingly, at Harvard (www.crimsonangels.com), which they opened for service last year. The network quickly grew to today's 75 sites, which includes Dartmouth, Duke, Emory, Georgia Tech, MIT and Northwestern; Sasner says they plan to expand the network to smaller liberal arts colleges as well.

The network works like this: Would-be captains of industry send their business plans to the central UA site (www.universityangels.com). The crew at UA headquarters in New York City, many of whom come from the investment banking world, then evaluate the plans. There's no one niche or industry that's particularly attractive, Sasner says. "We want to make sure that our investors make that choice. We typically look for a very good management team that has experience in the industry in question."

If accepted, the business plan gets posted exclusively at the alma mater's UA site. Alum investors get first crack at any potential hot ideas. Investors—Sasner says they have 2,500 registered so far—must meet the Securities and Exchange Commission's investor accreditation standards to become members. (That means they must have a certified net worth of at least \$1 million or an annual income of at least \$200,000.)

After two weeks, the plan becomes available to the rest of the UA investors and stays on the site for 90 days. "If it can't make money in that time, it probably won't work," says Sasner.

UA has evaluated more than 3,000 plans so far, and Sasner says that there are 75 currently in play. UA also got a combination of cash and equity from each of the five deals closed thus far.

"It really is fascinating to hear what people are doing and what new ideas people are thinking about," Sasner says. "It's one of the things I like the most." ■

Senior Editor Carol Hildebrand covers VC for *Darwin*. Contact her at cjh@darwinmag.com.

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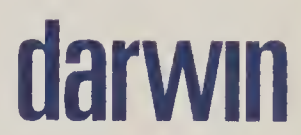
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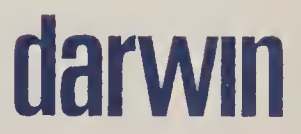
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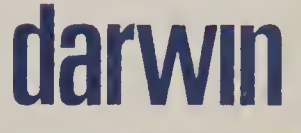
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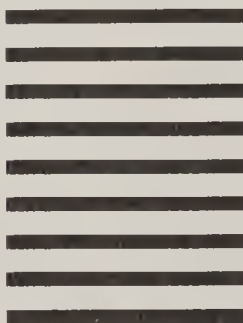
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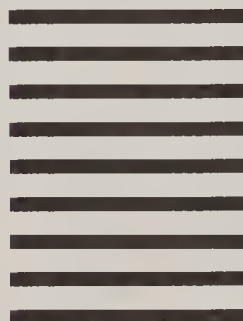
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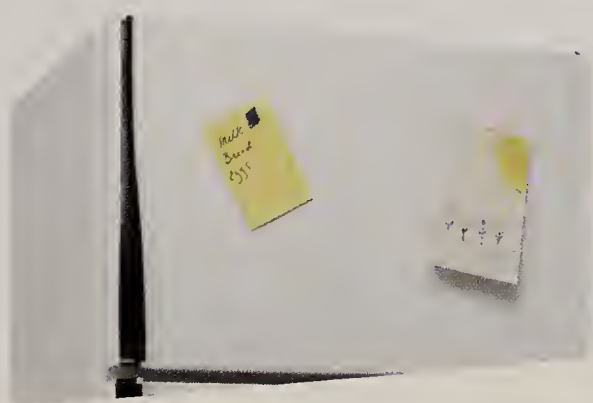


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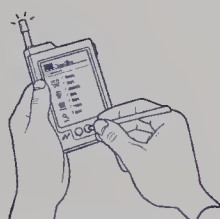
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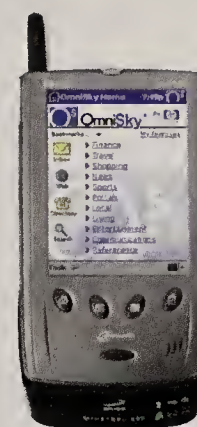
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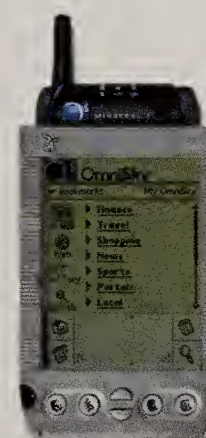


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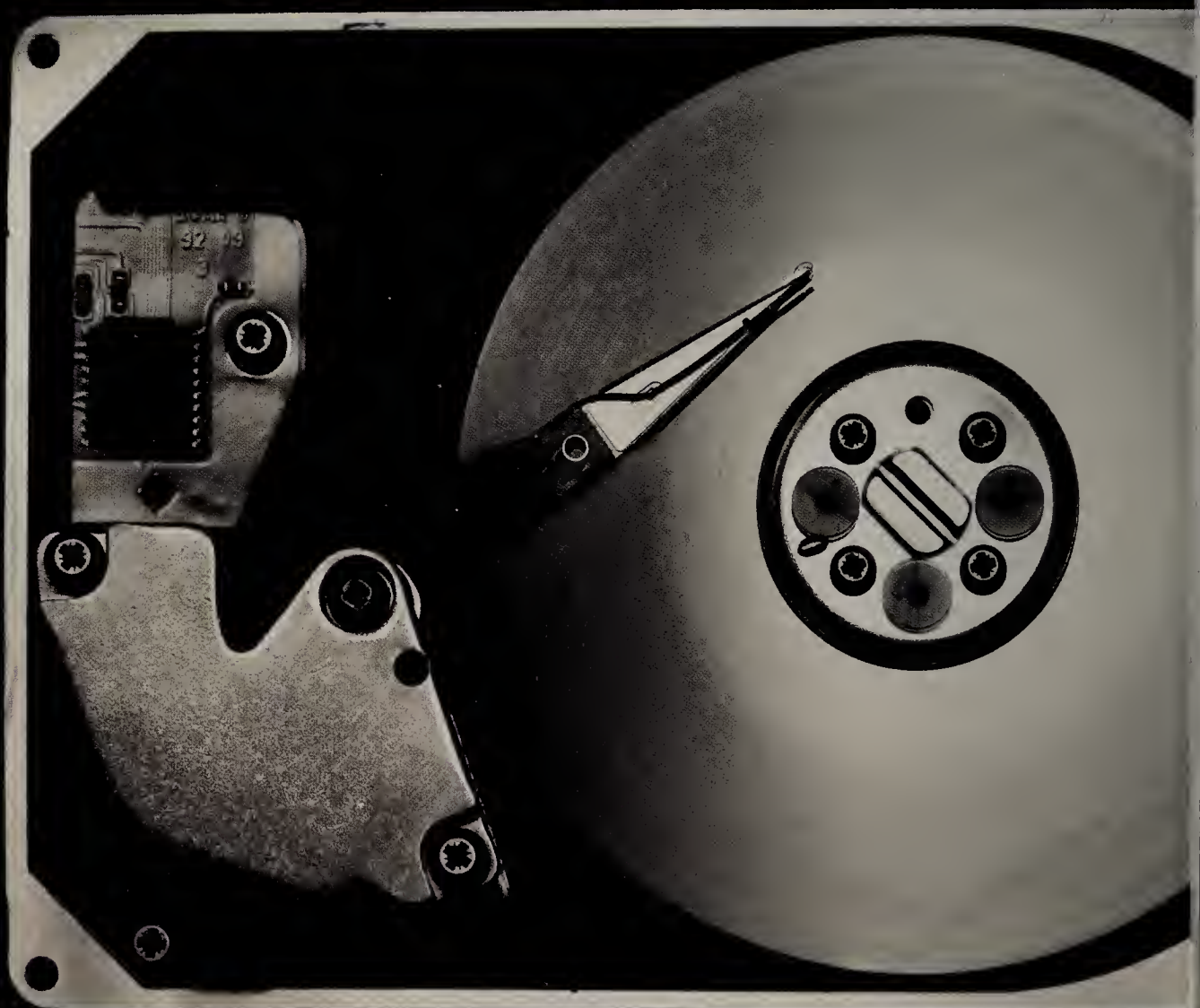
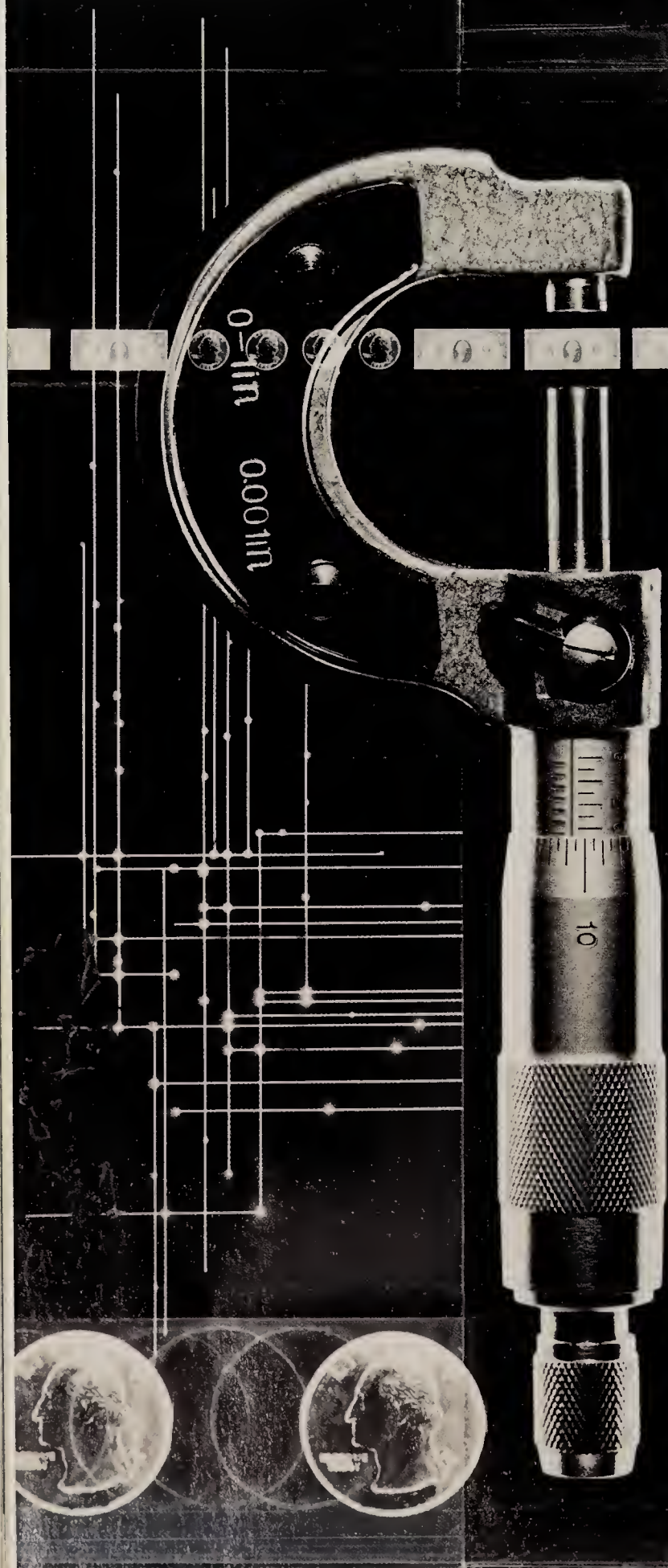
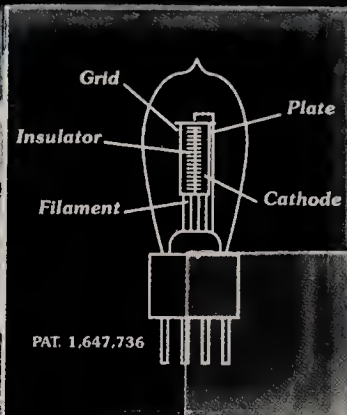
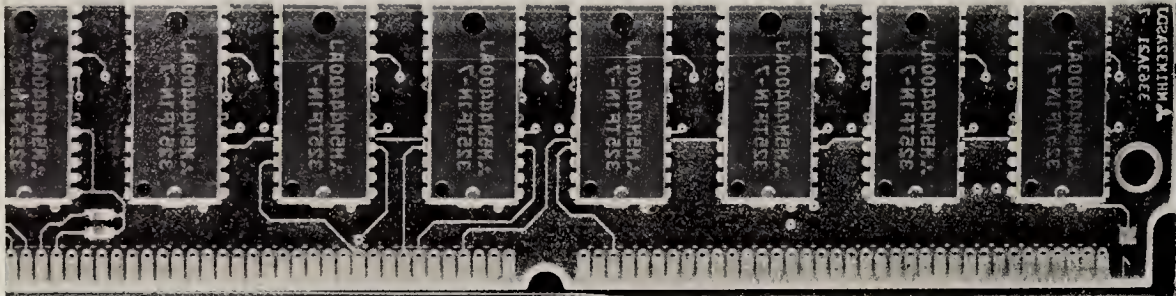
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by christopher koch

Chemical companies aren't big technology spenders. In 2000, for instance, the industry gave up about 3 percent of revenues to IT, a far cry from the financial services and telecom arenas that spend as much as eight times that amount, according to Gartner Group.

But Eastman Chemical—and other low-margin commodity-based industries—are heading toward the same technology spending binge that transformed telecom and financial services from sleepy, bureaucratic order-takers into diversified, technology-based service companies.

The Kingsport, Tenn., chemical company has created a venture capital fund to invest in software businesses and is taking major positions in two companies that will use the same technologies—supply chains and Web-based customer services—that are important to both financial services and telecom. Through

these two efforts, Eastman is simply looking for the same payback from technology that financial services and telecom now enjoy.

But before that happens, mainstream industries like chemicals are going to have to endure the massive structural changes and corporate upheaval that have become a way of life in leading businesses during the past 10 years.

As these bellwether industries discovered, spending big on technology triggers big changes in business models. Bringing the turnaround time for a stock trade down from days to seconds has meant rebuilding the old brokerage houses and their ways of operating from scratch. Radically changing the percentage of money allocated to IS in mainstream companies will spark a similarly exponential change in the way those companies are organized and how they do business, says Howard Rubin, executive vice

president of Meta Group in Stamford, Conn. "This is going to require massive cultural change," he says.

Sound scary? It is. Such an upheaval will push brick-and-mortar companies to their limits. Indeed, many Fortune 500 companies already feel the effects.

Only recently have CEOs begun to appreciate the impact of technology on their businesses. They have resisted spending money on IT for years because it was a tool that typically cost—but rarely made—lots of money.

said that "technology decisions were an integral part of the decision making process." Today that number is 97 percent, according to a worldwide survey by the Chicago-based consultancy A.T. Kearney of more than 250 CEOs last year.

Clearly, CEOs have made an attitude adjustment. But their spending habits have not yet caught up. Companies today spend an average of only 5 percent of their revenues on technology, according to Gartner Group in Stamford, Conn. And even tech-

America will rise to an average of 10 percent of revenues, with industry leaders spending significantly more than that. Clearly, technology can no longer be viewed simply as a cost to be controlled. CEOs will have to relearn everything they know about technology budgeting and turn their pockets inside out to bring technology outlays up to the same level as spending on new products, new businesses and new markets. Doing so will require a methodical campaign of education to sweep away the perception that IT is a cost center. Everyone, not just the CEO, needs to be convinced that technology is a critical component of business success.

The IS department must also radically transform itself to fit this elevated role (see "Death-Defying Leap," January 2001). Otherwise, the company will drag its feet on necessary technology investments. Bottom line: Technology spending could become a bet-the-business proposition for many companies.

Here are some practical steps that you can take to make sure your company's spending spree won't be a crippling one.

COMPARE I.T. SPENDING WITH AN INDUSTRY YOU'LL LOOK LIKE IN THE FUTURE. Executives at Eastman Chemical are pushing for a transition. They want to take the company from a pure manufacturing company to a service organization. To help make that happen, they need to look outside their own industry for cues on technology strategies and spending levels.

Making these cross-industry analogies is how Gartner Group analyst Kurt Potter helps his clients get comfortable with big shifts in technology strategy. "To predict what you will spend on IT, figure out what industry you will look like in the future," says Potter, who is research director for Gartner's Management Strategies & Directions Service.



Instead, IT was viewed as a way to help the accounting departments keep better records or work faster, but the business could survive without it.

The Internet is the first technology to change that perception. If you sell on the Internet, you are completely dependent on technology. No Internet, no servers, no business.

Technology has never held that kind of sway before, and the opinion numbers show it. In 1998, only 55 percent of CEOs

nology bulls have failed to keep up with the dotcom startups, which pour 30 percent to 40 percent of revenues into technology after the second year of existence.

Though dotcoms may not seem like blueprints for anything but disaster right now, the problem has never been with their levels of technology spending. Indeed, the dotcoms' focus on cheap, efficient technology led Wall Street to value them highly in the first place.

Gartner predicts that by 2005, technology spending across all industries in North

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One model for Eastman to consider is The Vanguard Group, the Valley Forge, Penn.-based mutual fund company. In 1986, Vanguard spent 12 percent of its operating budget on IT. In 2000, it will spend 42 percent, says Vanguard CIO Bob DiStefano. In those 14 years, Vanguard has gone from the ninth- to the second-largest mutual fund in terms of assets managed.

Along the way, DiStefano's company has endured a transformation that he sees coming for many other industries. The first change is in access. Vanguard's customers have demanded 24-hour phone access to accounts across an increasing number of different channels—online, phone and e-mail.

The second change has been breadth of services. Says DiStefano, "The question we've been asking ourselves since 1986 is, 'Do we want our product sold through other companies, or do we want to try to own the

THINK OF THE I.T. DEPARTMENT AS AN INVESTMENT, NOT A COST CENTER. Companies that plan and budget technology spending with a traditional view toward controlling costs will not be able to keep up with competitors that are willing to spend more creatively, says Rubin. Think diversification, he says, using the metaphor of a personal financial portfolio to describe how companies should begin budgeting their IT money. "Fear of spending comes from the traditional view of IT as a cost center. If you begin to think of IT as an investment rather than a cost, it doesn't feel wrong to spend more. By doing so, you focus on the benefits rather than the cost drain."

It's important, however, to create a balanced portfolio of safe investments that have low risk and steady return (an efficient, Internet-based network, for example) and riskier assets (such as an electronic

input needed to make sure the software fits their business needs. Unfortunately, when the software project stumbles—and it will—the responsibility for that lies with IS too. If the business has no good reason to get involved at the beginning, it certainly won't want to get involved when the project is a potential career ender.

But if the CIO can pull project components—hardware, software, consulting, staff time, maintenance and support—out of the overall IT budget and assign them to the P&Ls of individual business units that will benefit from the project, the business executives will be forced to pay attention.

GET BUSINESS EXECUTIVES TO LEAD TECHNOLOGY PROJECTS. "Someone on the business side needs to own technology," says Gartner Group's Potter. "Companies need to do continuous cost/benefit analysis on IT projects, and businesspeople are the ones best suited to do that. They are the ones responsible for profit and loss."

They will also be more likely to pressure IS to make the project successful. At Vanguard, business units don't just pay for their software, they must also provide a senior executive to help lead the project full time. "You have to demand passionate sponsorship from the business," says Vanguard's DiStefano. "You can't leave it to the techies because they may not be connected well enough to the business to know what they should be providing. If the business units pull a senior person off the line to do the project, we know they are serious about it."

REORGANIZE THE I.T. DEPARTMENT INTO A TECHNOLOGY SERVICES DEPARTMENT. If business units begin to take more responsibility for the fate of technology projects, they will need good advice. Trouble is, "IT organizations are

CEOs will have to RELEARN everything they know about technology BUDGETING and turn their POCKETS inside out.

entire customer relationship ourselves?" To grow in the mutual fund business, you have to choose the latter, he says. So Vanguard has pulled together an entire range of financial products, all of them technology based. Why? Such products as brokerage services, 401(k) programs, increased financial advisory services and aggregated financial record keeping are all cheaper to provide online, he says. "After 14 years, we wouldn't be spending 42 percent of our operating budget on technology if the business and customers didn't like what they were getting. Technology has proven to be the most cost-effective way to expand our services and give customers better access to their accounts."

commerce website) that have a higher potential for disaster but also offer potential new revenue for the company.

Understanding the costs, risks and rewards of a customer relationship management—or CRM—software project, for example, clarifies the budget decision for the business. Doing so allows IT to put the costs for that project where they belong: in the specific profit and loss statements of the business units that will use the software. Too often, projects created and funded by IS fail to get busy business executives' attention and commitment. They see the project as IS's responsibility, not theirs. As a result, they don't provide the necessary staff and

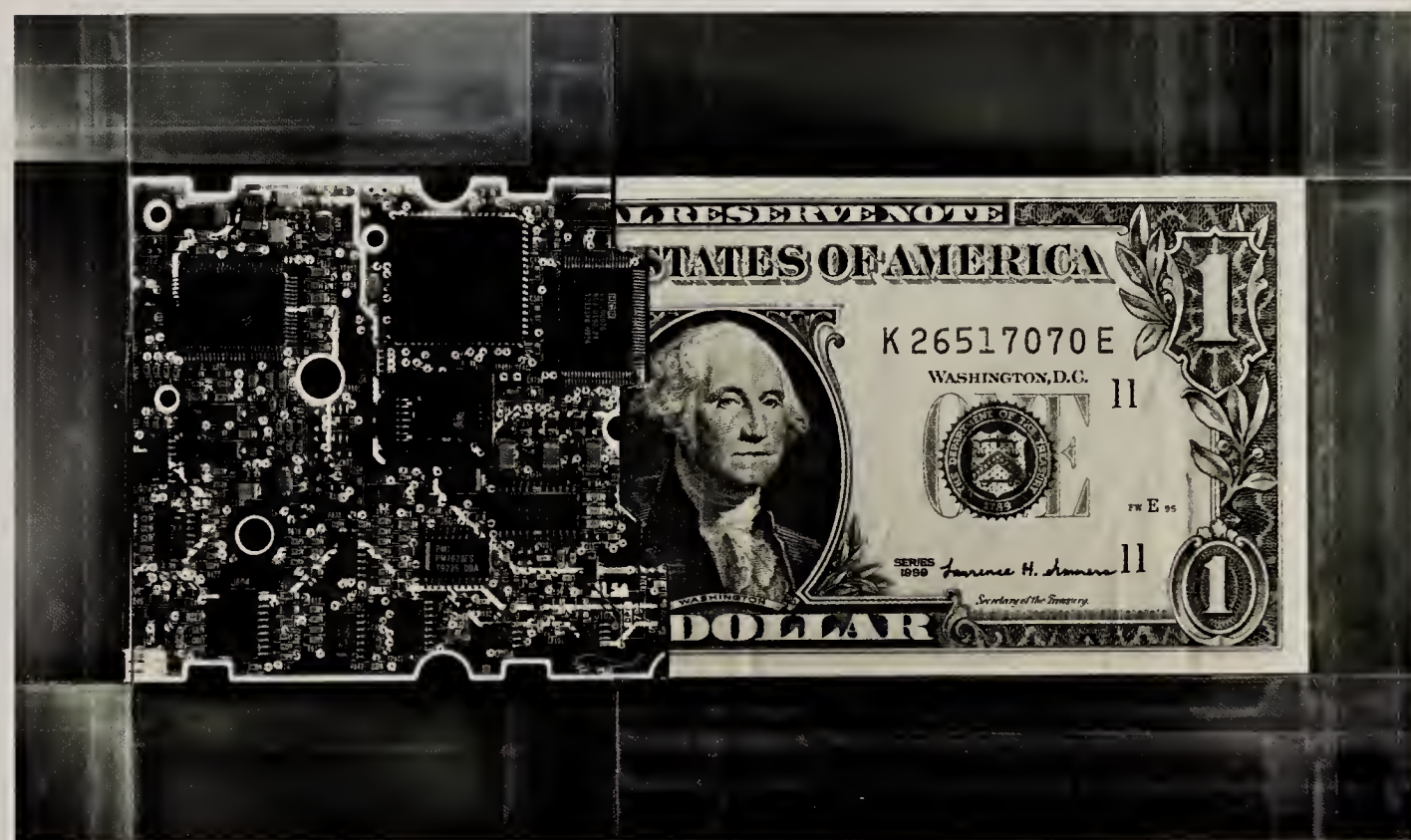
spending so much time supporting the day-to-day systems and end users that it sucks up their resources," says Christine Gattenio, director of sales at research company Hackett Benchmarking & Research in Hudson, Ohio. IT departments must broaden their reach beyond simply maintaining the status quo. They need to act a little bit like an outsourcer and a little like a consultant.

The way Avery Cloud sees it, in-house IT departments have many advantages over consultancies. "I don't have marketing costs," says the CIO at Integris Health in Oklahoma City, "I don't need a sales force, and I sit in on all the business strategy meetings," he says. "I should be able to offer services more effectively and more cheaply than outside companies." Cloud thinks his best hope of providing effective services to internal customers—ranging from hospitals to hospices—is to make his corporate IT group look and act like a Big Five consultancy. He spent a year researching what it cost him to provide strategic consulting, project management services and system maintenance. His staff bills an hourly rate for everything they do that requires more than four hours.

The question is not whether CEOs should spend more on TECHNOLOGY but rather how to ramp up quickly and WISELY.

Then Cloud sends the vice presidents of the business units a monthly report that shows the time and charges for each of their projects. He also charges each business unit separately for overhead costs (software and infrastructure support), PCs and direct charges (installing a T1 Internet line, for example).

To soften the blow to the business units, Cloud's bills for the past six months have



been for show only. He won't begin charging anyone until this June. "I'm already getting resistance," he says, "but it's a harmless fight right now, because no one's paying. I'm working through those fights without having economic angst feed into them. By the time we turn it on, we should have

at Eastman Chemical last year when CIO Roger Mowen—whose background at the company is in sales and marketing—assumed the role of directing the company's e-commerce efforts. He eventually became CIO, reporting to the CEO. "We're an asset-intensive industry, and we've traditionally looked at technology as a cost," he says. "My proposition is that technology is an integral part of business today and should be represented at the table when deciding strategy, products and services to customers."

worked through all the kinks." And Integris's line business executives will have an exact idea of what IT contributes to the business.

THE CIO SHOULD REPORT DIRECTLY TO THE CEO.

The quickest, easiest way to begin the shift to strategic IT spending is to create a direct line from IT to the CEO. That's what happened

TURN I.S. INTO AN OUTSOURCING WATCHDOG.

Gartner Group's figures show that the average support cost for a typical business consumer of IT resources has gone up nearly \$2,000 per person since last year, mostly because of the surge in e-business and an increase in the number of employees who use computers.

Staffing up to cover this dramatic increase in demand will be tough, given the chronic shortage of good IT staff. That means out-

sourcing. As one of the business executives at Partners HealthCare System in Boston who helps form technology strategy, Jay Pieper, vice president for corporate development and treasury affairs, always asks a couple of questions about outsourcing when IT staffers suggest a new project. "When we have an IT budget meeting, what's walked into the room are the additions," says Pieper. "But if you are going to raise the budget, part of the issue is what you are not going to spend money on. If IT wants money for PCs on everyone's desk, is there a rational way you will get rid of some mainframes or minis on the way from here to there?"

If, for example, a new software implementation project will render an old system obsolete in two or three years, Pieper asks whether IT plans to outsource the legacy system right then, rather than waiting until the new project is completed. "Besides reducing the workload for your own staff, it makes the scheduling easier for bringing the new system up and the old one down," he says.

Despite its potential for freeing up IT staff, outsourcing tends to focus on getting rid of existing systems rather than adding new ones. E-commerce, on the other hand, is a race to make smart investments in new technology. Any productivity gains from outsourcing support for old systems will be quickly sucked up by new Internet projects.

Rather than becoming a bottleneck for the business's technology aspirations, the IS function needs to push the buying capability and responsibility out into the individual business units that will actually use the stuff.

But for a peaceful handoff of power to occur, businesspeople can't be left with the responsibility for figuring out what will be required to support new technology—how many routers and servers will be needed, for example. And IT can't be

WHO SPENDS WHAT?

Estimated IT Budgets for 2001
(As a Percentage of Revenues)

All Industries	5.3%
Telecommunications	24.1%
IT Services and Consultants	13.6%
Security Brokers/Dealers /Investment Advice	12.1%
Computer Software	11.4%
Insurance	9.5%
Banking	5.5%
Computer Hardware	5%
Electric Utilities	4.7%
Transportation	3.6%
Manufacturing	3.1%
Gas Utilities	2.3%
Petroleum	1.7%

SOURCE: GARTNER RESEARCH

stuck with providing all the resources to support the new applications.

More and more, companies will approach the technology buying decision with the assumption that applications, infrastructure, and maintenance and support will be outsourced right from the start. Businesspeople will shop for services—customer support or supplier management, for example—and IT will be a watchdog for making sure the services have adequate technology support behind them.

The application service provider (ASP) market is the first incarnation of this kind of co-op buying decision involving business and IT (see "When a Stranger Calls," June/July 2000). In return for a monthly fee, ASPs provide the necessary applications, infrastructure and software maintenance to support a business service, such as customer service or HR benefits management, for example. ASPs sell directly to businesspeople, with IT acting in an advisory role on issues such as technology scalability and security. The ASP market is nascent and unstable, but the application rental concept is here to stay.

Joint ownership of technology spending by IT and businesspeople shouldn't be painful. After all, owning IT can't be much worse than owning any other asset these days, says Eastman Chemical's Mowen. "We have \$6.5 billion in assets and \$3.5 billion in market cap so there's some indication that the market doesn't value what we've built up over the last 30 years," he says.

Shedding hard assets like warehouses and manufacturing plants for a network of contract manufacturing has enabled San Jose, Calif.-based Cisco Systems to achieve world-beating productivity levels. In 1999, Cisco brought in nearly \$713,000 per employee, compared with the Fortune 500 average of about \$192,000, according to AMR Research, a Boston-based research company. Because 90 percent of its orders come through its website and 50 percent of those orders never touch the hands of a Cisco employee, Cisco claims it has reduced the administrative overhead for processing each order from \$100 to between \$5 and \$6.

The question for the rest of the Fortune 500 is not whether they should spend significantly more on technology but rather how to ramp up technology spending quickly and wisely. Those that can use technology to transform their business practices and supply chains like the way Cisco did will become industry leaders. To do so, IT staff and businesspeople will need to forge a new partnership that alters the way they budget their IT dollars. If non-IT executives become more responsible for technology spending—and IT executives are elevated to a peer adviser role rather than a subservient service function—companies will have the basic decision-making structure they need to transform themselves quickly and effectively. ■

Executive Editor Christopher Koch can't imagine spending 30 percent of his own revenue on IT. But if you can, he'd love to hear from you. Contact him at ckoch@darwinmag.com.

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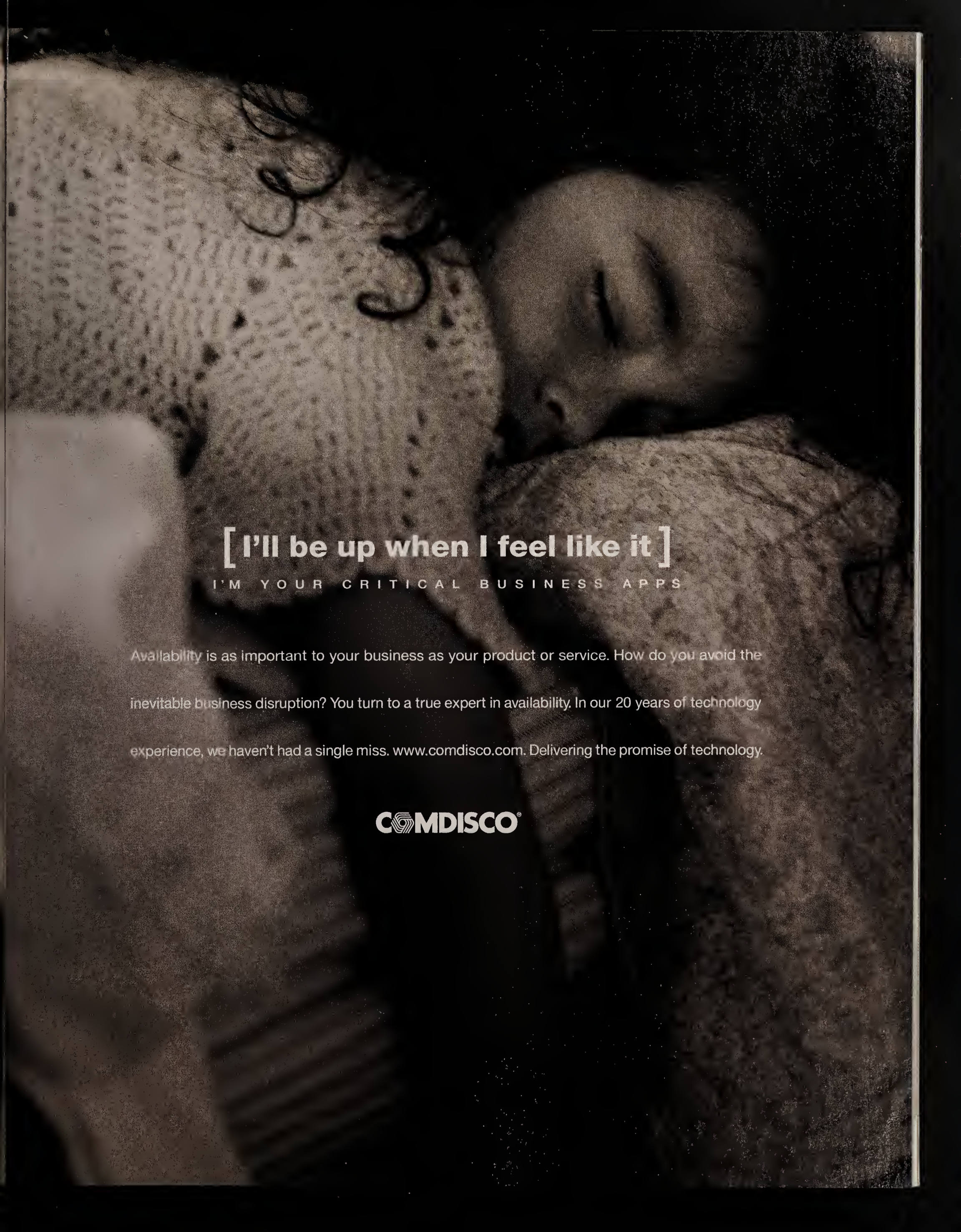
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WHEN OUTDOOR GEAR PURVEYOR RECREATIONAL EQUIPMENT Inc. (REI) outgrew its headquarters in a Seattle suburb last fall, the Web team had to take a hike. Just to another cement building on the same half-block-long campus, mind you — not much of a trek for the climbers, runners, cyclists and other super-fit nature-lovers who make up REI's workforce. Yet it was far enough for REI's Web chief to justify buying a new corporate fleet: 24 trendy scooters, anodized the same pine green as REI's woodsy logo.

REI was smart enough to integrate its store, catalog and online operations long before it was the thing to do. Today, the retailer is one of a handful of companies that have turned a profit on the Web. by sari kalin

REI execs didn't want to separate the Web-heads from their offline coworkers. But since there wasn't room to keep all employees in one building, investing in hip inter-building transportation seemed the next best thing. The scooters also reflected a corporate mind-set that has driven REI's online efforts for the past five years: Keep the website connected to the rest of the business.

REI bet on a click-and-mortar strategy back when conventional wisdom said that agile dotcoms — unencumbered by the bureaucracy and costly storefronts of brick-and-mortar dinosaurs — would win. Today, it appears that REI bet right. In 1999, it drew in \$41 million of its \$621 million in sales via the Web, and at press time was on track to double Web sales in 2000. Many pundits now believe that companies like REI that do business online and offline will triumph over those that operate only in one realm or



REI never considered its Web effort a pilot project. From the outset, Vice President of Online Sales Matt Hyde has been held to specific service and financial goals.

the other. Customers want to shop wherever and whenever they want, so companies need to be able to meet customers' needs in any sales channel—in REI's case, that means stores, catalogs and websites—and make it easy for patrons to move seamlessly among channels.

Some of REI's success can be traced to its pre-Web attributes. But much of it stems from crucial choices REI made during its earliest days of forming its online strategy—choices that anyone trying to fashion a click-and-mortar strategy, retail or otherwise, can still learn from today.

A Natural Evolution

Long before anyone had ever conceived of the Internet as a venue for commerce (or even conceived of the Internet itself), REI had some built-in advantages for doing business online. The company has decades of experience in shipping orders

1.7 million active members represent about 85 percent of its in-store customers. Members share in REI's profits, based on how much money they spend. That means REI has long needed to

"Customers don't think of REI as a dotcom business or a catalog business or a brick-and-mortar business. They think of our brand as encompassing all of those channels. And their expectations are identical no matter how they shop from us." —DENNIS MADSEN, CEO (ABOVE)

directly to customers; it started running a catalog operation not long after it was founded in 1938 by a Seattle mountaineer. Companies with well-established, direct-to-consumer sales capability offline have an edge when they move online, since they already have fulfillment systems in place, says Andrew Bartels, a senior research analyst at Giga Information Group. He contends that's why companies like L.L. Bean, Lands' End, Southwest Airlines and Computer Discount Warehouse have been successful online.

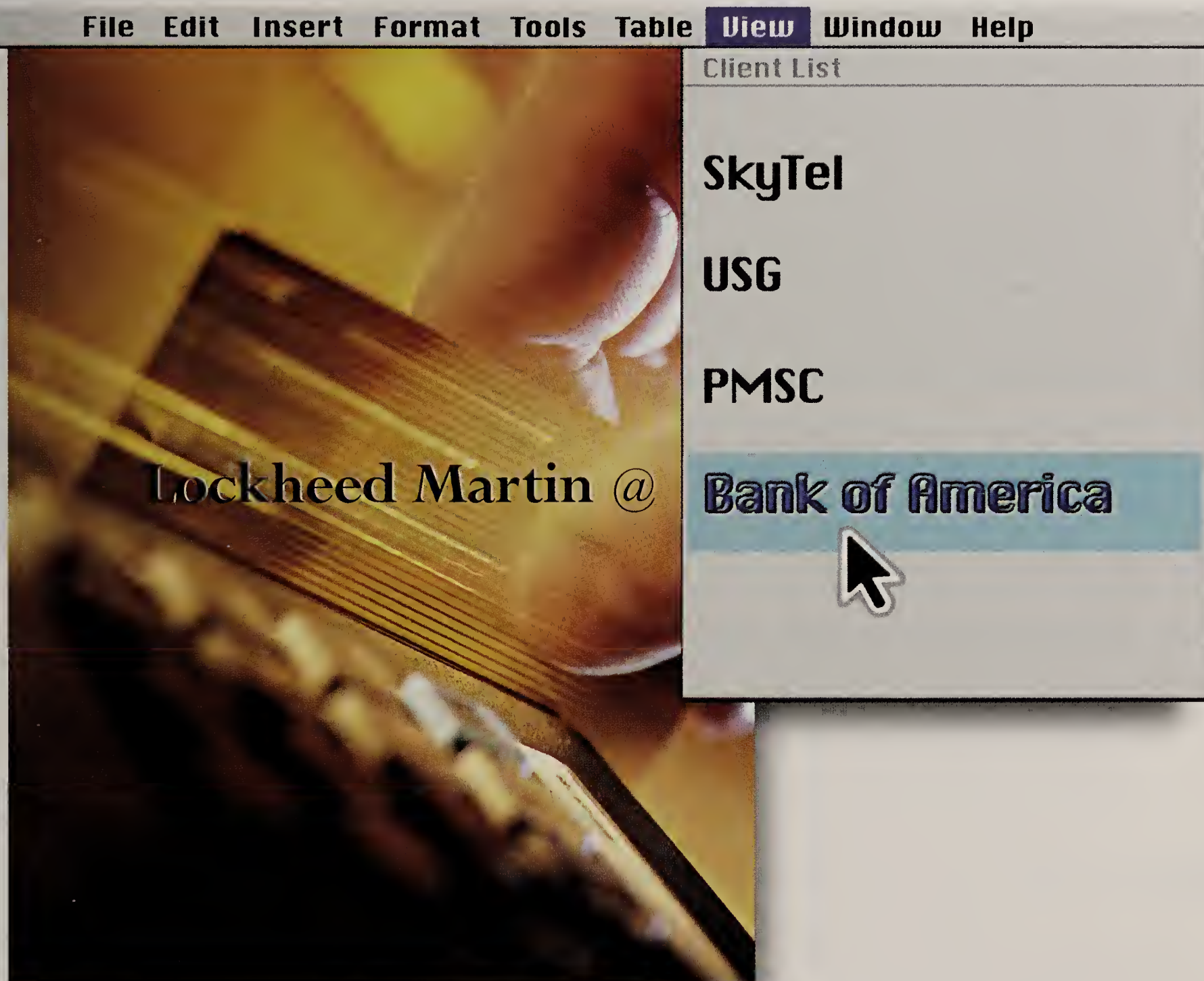
What's more, REI is a member-owned cooperative, and its

have a single view of its customers and their buying history across all of its distribution channels. It's a useful capability if you're trying to figure out whether your website is bringing in new business or just cannibalizing your existing business.

In early 1996, REI's then-COO and Executive Vice President Dennis Madsen began to explore the possibilities for Web commerce. Madsen, an avid sportsman who likes to conduct "working runs"—jogging meetings on the running trail at REI's campus—during his lunch hour, doesn't consider himself a techie. But he could see the Web as the natural evolution of direct-to-customer catalog sales—that is, as another way to extend REI's reach beyond the four walls of its stores. At the time, there was no clear road map for brick-and-mortar companies to follow when they went online. Many companies with established offline brands just ignored the Web, figuring that online sales wouldn't amount to much anytime soon. But Madsen believed that the Inter-



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The Integrated Enterprise

net was an opportunity for REI to better serve its customers. In 1997, a customer survey backed Madsen's instincts: REI found that 85 percent of its customers had access to the Internet at home or at work. Madsen's foresight about the Web paid off professionally too; REI's board appointed him CEO earlier this year, saying his role as e-commerce champion demonstrated his drive to find new ways for REI to grow.

Madsen put together a team to get an e-commerce website up and running, and he made a crucial management pick: He appointed Matt Hyde, a lanky, energetic REI insider, to run the online group, rather than searching for some hotshot Web guru from the outside. Hyde had started at REI as a part-timer (a geologist by training, he had moved to Seattle in the late '80s to be closer to great climbing, and he needed a way to pay the bills). He had risen quickly through the retail ranks, and he had a real affinity for the newfangled Web technology. But more important, he had a deep knowledge of REI's customers.

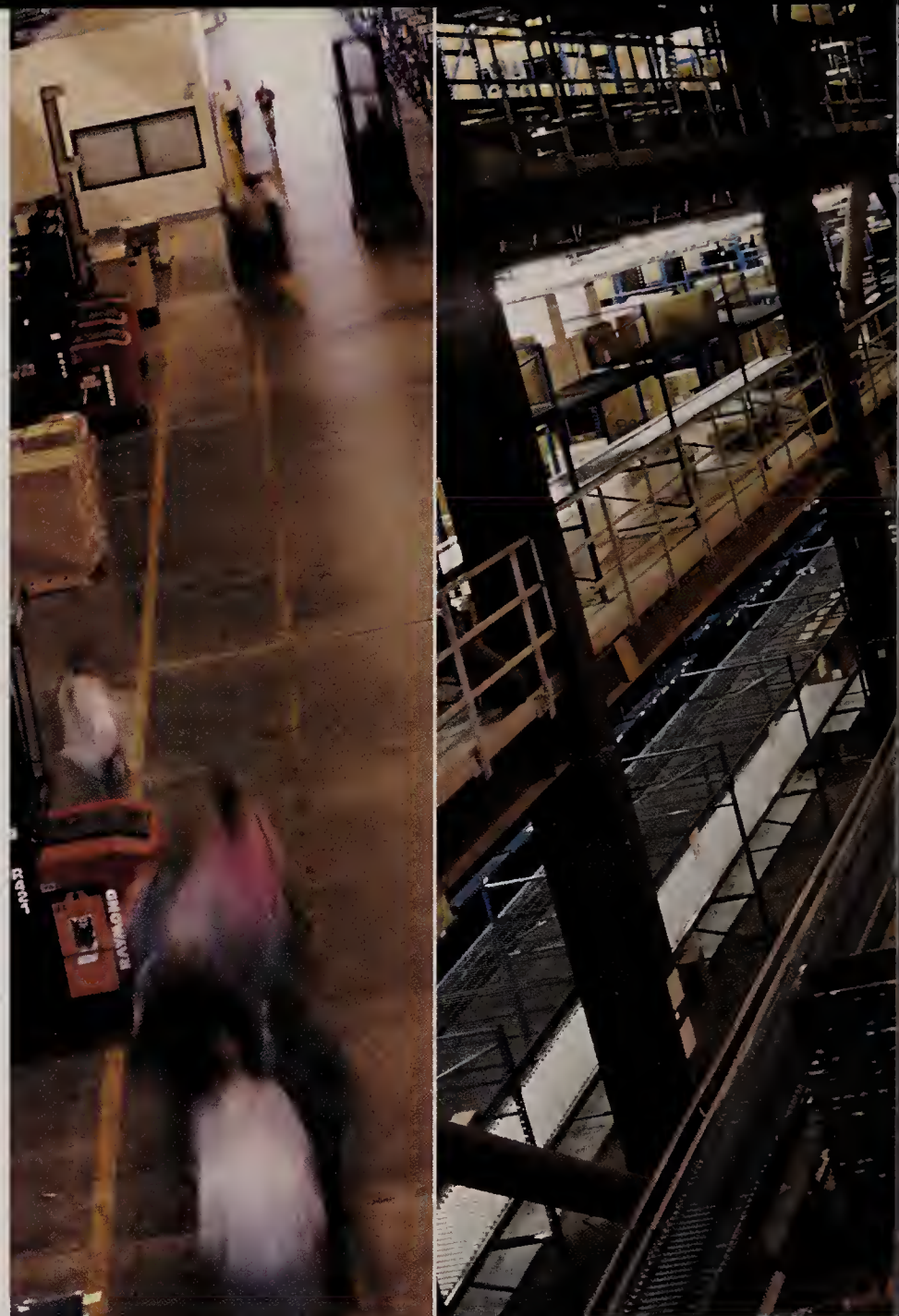
"This business isn't about technology," says Madsen, a 34-year REI veteran who started working on the retail store floor when he was just a teenager. "It's about understanding the customer and translating that understanding into strategies and tactics that will take care of his needs and expectations."

A Surefooted Approach

Unlike many companies at the time, REI didn't treat the Web effort like a pilot project or an experiment. From the start, Hyde says, the company regarded it as a real business and held it to specific service and financial goals.

Given that the Web was seen as a core part of REI's business, Hyde decided it was crucial to do all site development in-house. Many brick-and-mortar companies back then chose to outsource development to get a site up and running quickly, and, even today, some analysts see outsourcing as a best practice. Hyde, however, still believes REI needed to have Web development skills as a core competency.

It's also been common for businesses rushing to establish a Web presence to cut corners



by limiting—or even skipping—integration with legacy systems. But for Hyde, there was never any question that REI's site would integrate with its legacy systems and existing fulfillment operation: Co-op members needed to be able to get credit for whatever orders they placed, wherever they placed them. And it would have been crazy to not take advantage of REI's new distribution center with its six miles of conveyor belts; it had already been designed to handle both store and catalog fulfillment out of the same inventory.

Early on, REI made another key decision: It would spend heavily to launch and market its website, and it would accept losses in the early years. In 1996, when REI launched the retail site, and in 1997, the site did not make a profit—not unusual in online retailing. (Amazon.com has yet to operate in the black since it went public.) Madsen wasn't happy about the red ink and neither was REI's board. But at the time—the height of the dotcom-funding frenzy—Madsen felt he had little choice. "The Internet pure-plays had such deep pockets that they weren't spending their money appropriately, and they were creating hardships for themselves and for established retailers like REI," Madsen says. "We felt compelled to play the game the way the rest of the retailers were playing it."

REI's online group turned a profit in 1998 and 1999. But it dipped slightly into the red in 2000—planned losses to pay for improvements such as expanding the website overseas and

REI at a glance

Company | Recreational Equipment Inc., Kent, Wash.

Founded | 1938

Business | Cooperatively owned retailer of outdoor gear through its retail stores, catalogs and websites

1999 total revenues | \$621 million

1999 Web revenues | \$41 million

Active members | 1.7 million

Number of stores | 60

Number of websites | Three
(www.rei.com, www.reioutlet.com
and www.rei.co.jp)



Speedy delivery

Website growth drove REI last year to build a 145,000-square-foot mezzanine in its distribution center; the new level holds 25,000 more products. To be able to fulfill Web orders with the same-day speed that online shoppers demand, REI now bar codes all packages. Overhead scanners record the weight of each package on the conveyor belt and calculate postage. A new order routing process lets REI pick and process orders based on customer type and the speed of delivery requested.

he made the right choice in not carving off the website from the rest of the business. "When customers think of REI, they don't think of us as a dotcom business or a catalog business or a brick-and-mortar business," he says. "They think of our brand as encompassing all of those channels of distribution. And the expectations they have of us are identical no matter how they shop from us."

Blazing New Retail Trails

Visit any of REI's stores, and you'll see its click-and-mortar strategy in action. It's not the kind of action you'll find on the two-story climbing walls that have become a regular feature at REI's new stores. But amidst

adding functionality, according to a spokeswoman. Even though dotcom retailers are struggling, that doesn't mean the pressure is off REI; it still must invest in the future. "Every year we have to do things a little bit better to stay ahead of customers' expectations," Madsen says. The same holds true for the company overall. Its profits have dropped slightly each year since 1997, in part because of Web investments and in part because of other initiatives aimed at growth, such as construction of its new superstore in Denver and expansion into Japan.

Other brick-and-mortar companies faced with early competition from then well-funded dotcoms chose the spinoff route to raise capital for their Web efforts. Barnes & Noble, for example, spun off its Web business and took it public, spurning integration between the two channels—and later got criticized for its click-and-mortar gap. In October, the company decided to take a radical turn in its strategy, announcing plans to install Internet service counters in Barnes & Noble superstores and to let online customers return items to stores. It is also starting a loyalty program that will encompass both online and in-store purchases.

The spinoff strategy still appeals to some retailers, although perhaps less so now that the market for dotcom retail IPOs has tanked. Last year, Wal-Mart turned to Accel Partners to help turn around its much-criticized website and launched a separate dotcom group based in Silicon Valley. Still, Madsen believes

the tents, portable cookstoves, hiking boots, Baby Joggers, beef jerky and other outdoorsy gear, you'll find kiosks that let customers surf REI's website. Unlike some brick-and-mortars that have built anemic websites for fear of eating into offline sales, REI sees the Web as a way of expanding its retail floor space. From the website, customers can order items that the store may not have in stock—and there are bound to be a few because the site stocks 78,000 items, Hyde says, tens of thousands more than a typical store or catalog. Store employees can also order items from the website via their cash registers, which have been Internet-enabled since 1999.

Kiosks, which started showing up in REI stores in 1997, are not just for order-taking; customers and employees can print out background information from REI's website related to the products in the store—say, a price list for all canoes or a list of the kinds of clothes and gear needed on a cold-weather kayak trip. Seema Williams, a senior analyst with Forrester Research in Cambridge, Mass., notes that REI could be more creative with its kiosks. Rather than just offering access to the website, kiosks could offer access to special applications designed to help customers make a decision about a product in the store. But even with their current limitations, kiosk revenues add up: Total revenues across all kiosks equal the revenues of an average REI store, Hyde says.

REI strives to give consumers the same message across its



REI's Web team members use scooters to stay in touch with their business colleagues in another building.

website, stores and catalog. Customers can buy products online or via the catalog and return them in stores, if they wish. Even as REI strives for harmony across its channels, it has not shied away from using the website to see whether there's a market for new products before it rolls them out in its retail stores. Last year, it debuted two new departments—fitness and fly-fishing—on the Web. After they proved to be successful online, REI started introducing them in a few of its stores. REI even launched a fully translated Japanese-language website months before it opened its first store in Japan—albeit, with prices at first quoted in dollars and fulfillment handled through its Seattle distribution center. (Prices are now in yen, and REI opened a distribution center and customer support center in the Yokohama area last April.)

The Next Ascent

There's room for REI to improve the integration between its stores and its website. While the website offers real-time information about whether a product is in stock at REI's distribution center, it doesn't let customers view inventory availability in a particular store, nor does it let them order items online and pick them up in the store. An REI spokeswoman says that members have never asked for this functionality, so the company has no immediate plans to offer it. But some analysts believe that such integration will give click-and-mortar companies a huge advantage over dotcom companies if they can pull it off. Circuit City is one of the rare brick-and-mortars to do so (see "Getting from Bricks to Clicks," August/September 2000).

Still, REI's current click-and-mortar efforts appear to be paying off quite nicely: 50 percent of REI's website customers are newcomers to REI—that is, they are nonmembers. And REI's existing customers haven't just shifted their spending from bricks to clicks, Hyde says. A survey showed that customers who shopped in REI's stores in 1998 and then also started shopping on its website in 1999 spent 22 percent more money in REI's stores in 1999. "The value of integrating multiple channels is pretty remarkable," Forrester's Williams says. "[REI is] one of the few retailers that has demonstrated it."

Bartels, the Giga analyst, believes that in the long term, when every company has a presence online and offline, REI will see more channel shift—that is, people will move their spending from offline to online, rather than spending more overall with REI. "But in the near term, companies that do support different channels will gain incremental sales over those that don't," he says. "There are people who like to primarily buy online, and then there are people who like to do research online but still buy in the store. A pure Internet company can capture the first [type of customer], but a click-and-mortar company can capture both."

REI intends to keep serving both kinds of customers—and maintain tight ties between its website and its stores. "We want to do everything in our power to keep these two lines of business integrated fully and with a common face to the customer," Madsen says. In other words, expect to see a lot of wear and tear on those zippy green scooters. ■

Sari Kalin has never ridden a scooter, preferring to use her own two feet to visit Darwin's Web team across the hall. If you have click-and-mortar insights to share, drop her a line at skalin@darwinmag.com.



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by todd datz

Geeks are cool. Really.

We're not just talking about that guy Josh down the street who bought the biggest house in the subdivision a year ago after getting millions for his dotcom at the height of the selling-gerbil-wheels-online-is-a-fantastic-idea craze. No, we're referring to some of the hottest, most well-respected leaders in the industry today—Steve Case, John Chambers, Michael Dell, Carly Fiorina, Bill Gates, Lou Gerstner and Steve Jobs, to name a few. What do they all have in common? They're geeks. Really powerful geeks who run really successful technology companies.

If you're a senior executive at a consumer products company or a steel manufacturer, you might be saying to yourself, "Hey, I'm cool too." And you may well be (tip: don't ask your kids). But you'd be a heck of a lot cooler—and smarter—if you were up on technology. If you could surf your competitors' websites for competitive intelligence. If you could sit down with your CIO and trade ideas on your company's e-commerce strategy. If you could pitch board members on the merits of joining a trading exchange.

Technology has ripped through conventional business wisdom like William Tecumseh Sherman's fiery march to the sea, leaving old economy structures and practices trembling in its wake—and many executives acutely aware of their IT ignorance. But there's hope. You don't have to live in terror of getting grilled on your (nonexistent) e-commerce strategy at the next board meeting. Learning about technology—both strategic and personal—and understanding the way it affects every fiber of your business will help you and your company harness its power.

Here are 10 ways you can educate yourself about technology. Read them. Follow up on a few of them. Get hip. And become a more effective business leader.



Get Wired

It's big. Expensive. Smart-looking. It's your computer, and it deserves to do more than act as a repository for Post-it notes.

The good news is that the vast majority of executives have gone online (91 percent, according to a recent survey by New York City-based Burson-Marsteller).

But if you don't use e-mail yet, get a buddy or your assistant or one of the IT staffers to show you the ropes. E-mailing is the best form of communication to come down the pike since early humans whacked the fire guys in the head when the mastodon was overcooked. Same goes for the Internet. Get online—it's much easier than you think.

More experienced executives should consider ratcheting their computer skills up a notch. Katherine English, executive vice president of programming and product development at ThirdAge Media, a lifestyle website for baby boomers in San Francisco, advises executives to do a little

online shopping. "You'll be amazed at the things you can pick up for your own business," she says.

If you want to go further with your PC, learn how to use PowerPoint to construct a presentation. Fiddle around with Excel spreadsheets. Go online and view streaming video of a competitor's latest product announcement.

Why should you bother? Simple. You're a leader in a 21st century organization. Your company is likely investing heavily in e-commerce or has at least dipped its toes in e-waters. The message should be clear—technology is changing business. Becoming comfortable with it will help you better understand your business.

Flex Your Research Muscles

For years you've religiously kept up with general business news and trends via *The Wall Street Journal*, *Fortune* and *Forbes*.

Now's a good time to expand your reading list.

Out in the great technology yonder, there is an increasingly rich set of print and Internet offerings that can help with the basics of technology (What is CRM?) and provide in-depth analysis of more complex challenges (Should we outsource our website?).

"In terms of self-education, I believe leaders are readers," says Jim Amos, CEO of San Diego-based Mail Boxes Etc. "You must read with passion and focus. With technology, you must educate yourself."

There are always the obvious choices: business and technology magazines such as *Business 2.0*, *Computerworld* and *Wired*, which range in technical granularity. And, not to toot our own horn too loudly, *Darwin's* sole mission is to demystify technology for all you CEOs, CFOs, COOs and functional leaders. (Note: *Computerworld* is owned by *Darwin's* parent company, IDG.)

But moving away from mainstream offerings, take a gander at academic journals, like the *Harvard Business Review*, which often publish articles involving technology. And why not peruse some of the magazines' online sites? Take a few minutes to click around some pages. You'll find glossaries of technology terms, stories on topics like e-business, supply chain and knowledge management, and opportunities to interact online

with your peers. At many sites, you can subscribe to e-mail newsletters that will arrive on your desktop daily or weekly. Technology analyst sites like those of Forrester Research, Gartner Group and Jupiter Research can also be good sources of information. And business schools are even getting into the game. Subscribe to Knowledge@Wharton, for instance, to read articles and research paper summaries and news analyses.

The media can help you become geekier. And that's a good thing.

Cruise the Conference Circuit

There are 18 zillion conferences out there. OK, slight exaggeration, there are just over 17 zillion. You can find conferences on application service providers, e-commerce, e-procurement, extranets, knowledge management, network security, outsourcing and supply chain management. Looking for industry conferences? Here's a sampling:

Advanced Health-Care IT Management, Fixed Income Systems and Technology, and How Successful Manufacturers Leverage the Internet.

Conferences can be valuable sources of information on what's new, what's hot and what's passé five months after its debut. Robert Waggoner, president and CEO of Burrelle's information services in Livingston, N.J., says conferences are a great place to gain insight from leading-edge speakers. He encourages sidling up to these folks during the informal sessions. "I met John Malone a few years back [former CEO of cable giant TCI], one of the most brilliant people I've ever encountered. You hear a guy like that make a talk, then hang around afterward.... They're in a setting where they're not guarded by a PR person, so they'll often let some [valuable] things slip."

And chatting on the golf course or over a cocktail with your peers can help you garner a lot of good information, if not some stealthy competitive intelligence. ("Jack, I hear Acme Industries is producing a heat-seeking anvil that will finally spell the end of the Roadrunner....")

Check out www.darwinmag.com/connect/events/index.html for a comprehensive listing of upcoming events.



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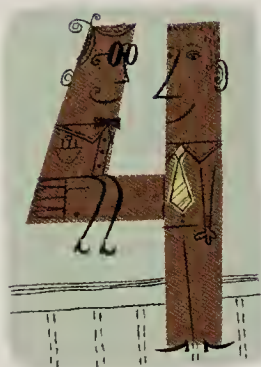
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Buddy Up to Your CIO

Quick, who's your chief information officer? Don't be stupid, you say. OK, answer these questions: Where did she go to school? What company did she come from? The one before that? Does she play golf? Have children? These might be a little tougher to answer. Ask the same questions of your CFO or COO or vice president of marketing, however, and there's a good chance you'll

know that CFO McLedger went to Notre Dame, worked previously at Ford and GE, has a 17 handicap and snuggles up to twins Twilly and Jilly every evening to read *Goodnight Moon*.

If you talk to your top technology executive only at budget time, you're not alone. A recent study by Korn/Ferry and *The Financial Times* found that CIOs confront several barriers, including lack of access to decision makers and an outdated view of the CIO as only a high-class technician.

Aligning IT to company goals now and in the future is a wise step. To encourage that process, why not get to know your CIO better? Regular meetings are a start. Waggoner and some of his fellow executives, for example, meet with a few technology people informally once a week and formally once a month. He might want to discuss something he's read in a newspaper or magazine or may want to get the IT folks' thoughts on a new application he's heard about.

John J. Brennan, chairman and CEO of Valley Forge, Pa.-based mutual funds giant The Vanguard Group, prizes his close relationship with Robert DiStefano, Vanguard's managing director of IT. "There aren't many days that go by that we're not shooting the breeze about something or other," Brennan says. "Then we meet every two weeks on a regular basis with a steering group on IT-related issues. So it's a pretty intense relationship."

After all, managing information can no longer be viewed as a back-office function. IT lies at the heart of today's corporation, helping to keep the blood flowing to all its disparate parts. Getting to know your CIO better will help maintain your company's long-term health and vitality.

Sign Up for Basic Training

Let's play guess the job title: (a) He puts you through 45 minutes of heart-attack-inducing hell in your gym; (b) She helps you become more comfortable giving presentations and mak-

ing speeches; (c) He works with your child after school on the trigonometric intricacies of sines, cosines and tangents. The answer? In one form or another, they're all personal trainers. Now chew on this for a second: You can do the same thing with technology! Establish an in-house IT tutoring program in your company for non-IT executives. It's beautiful, really.

H.E. Butt Grocery Co., a San Antonio-based grocery store chain, instituted a NERD (necessary executive reshaping degree) program two years ago. Once a week for 10 weeks an executive meets with a personal trainer from the IT department to learn about technology, build a relationship between the business and IT functions, and have fun.



GE runs a similar project that it dubs a "reverse-mentoring program." (See "The Art of the New Deal," June/July, Page 82.) Instigated at the behest of CEO Jack Welch, the program pairs executives with young, Web-savvy employees. They meet regularly to help executives become more comfortable with the technologies and trends in e-business.

If management deity Welch thinks IT tutoring is a groovy idea for GE executives, maybe it will work in your company. Not only will you learn your technology ABCs, it creates bonds and bridges gaps between the business and IT sides. Alignment, anyone?

Head Back to Campus

Rah-rah system boom-bah! What better place to give your old economy self a facelift in strategic technology issues than at a university's executive education program? Though technology content has played second fiddle to traditional management disciplines in the not-too-recent past (and still does, in many cases), today you can find any number of programs that offers courses on e-commerce, Internet marketing and managing strategic change. And while the classroom stuff is good, rubbing elbows with your peers can often be more valuable than delving into the latest Microsoft case study.

Stanford University, for example, offers a week-long Strategic Uses of Information Technology program, which boasts faculty like Andy Grove, chairman of Intel, and John Mor-



gridge, former president and CEO of Cisco Systems.

Harvard's nine-week Advanced Management Program, the big daddy of its executive offerings, revolves around four themes, one of which is "exploring how the Internet and e-commerce are changing the fundamentals of business." The school even provides

handheld computers to participants for checking spreadsheets or surfing the Web while discussing monetary policy in the quad. At the Kenan-Flager Business School at the University of North Carolina at Chapel Hill, attendees take classes in a center where all the classrooms are rigged with network and Internet connections.

So get the company to pony up the dough (prices range from a few thousand for shorter programs all the way up to the \$50,000 range for longer ones) and broaden your technology horizons by heading back to school. You'll feel like a kid again.

Customize Your Education

Looking for a more personal executive education touch? In addition to hosting more traditional programs, many B schools that teach mass customization are doing it themselves.

Robert Mittelstaedt, vice dean and director of Wharton's executive education program, says more than 60 percent of the school's executive education classes are customized for companies. "Most of the stuff we do with customized programs is about organizational transformation.... We teach people how to act more entrepreneurially," he says.

Wharton also adds another spin to its company-specific offerings. Its E-Commerce Forum, which began in 1996, brings together about 10 noncompeting companies a couple of times a year to hear research results and learn about ongoing research by Wharton faculty. Most of the companies in the consortium, which pay at least \$50,000 a year, are trying to enhance their Web strategies and exchange ideas with the other members, notes Mittelstaedt.



Other schools offer customized programs with their own twists. Stanford runs a program in which each of three companies from different industries sends 70 managers to the school four times a year to learn about e-commerce issues. Haim Mendelson, director of e-commerce executive programs, adds that this program typically involves sponsors of Stanford's E-Commerce Center.

The message here is that your local business school may be ready and willing to educate your company in a one-to-one sort of way. You just give up the opportunity to shoot spitballs at your competitors in class.

Hold Teach-Ins at the Office

It's not feasible to send all your managers to pricey campus programs. Why not bring the classroom in-house? There are academics, consultants and likely more than a few business folks who will gladly hop on a jet (for airfare), show up at your company (for cab fare) and hold an hour, two-hour or full-day seminar (for speaker fare). Compared with the cost of sending 100 or 1,000 of your managers to an offsite program, it's a cost-effective way to learn about what's happening outside your company walls.

Mail Boxes Etc.'s Amos, for example, periodically brings in speakers to discuss business and technology issues. At a recent "family reunion" of franchisees, his company heard from Meg Whitman, CEO of eBay, Jack Shaw, corporate senior executive vice president for Hughes Electronics, and Fred Smith, chairman and CEO of Federal Express.

And if your company is one of the 1,800 or so that maintains corporate universities, then in-house learning is as simple as signing up for a course. Jeanne Meister, president of Corporate University Xchange in New York City, says that one trend she sees is non-IT executives taking courses not only to gain computer skills, but also to improve their ability to work with other departments. "We see marketing professionals taking IT courses so that they can better work with the IT department," she notes. Meister says she'd love to see more courses that teach the basics of IT—"an IT 101 course that would serve as a primer for executives." We think that's a wonderful idea.



Grab a Seat at Desktop U.

The Internet has brought a wealth of learning to the homes of millions. Now it can bring homework.

Distance education—taking courses online—is a growing phenomenon. Companies are enticed by the opportunity for their employees to learn either on the job or at their leisure at home. And the cost savings...ooh, the cost savings. You don't need to whip out the abacus to know that no plane ticket + no lodging + no stratospheric tuition = smiley CFO.

At least 95 percent of corporate universities offer some type of distance learning. A number of new players have entered the market as well. An e-learning company called Pensare (www.pensare.com) in Sunnyvale, Calif., is working with B schools like those at Duke, Harvard, Stanford, UCLA and Wharton to provide online learning modules for corporate clients. Subjects include customer relations, e-business strategies, e-commerce and e-marketing.

Another company hawking online learning to corporate clients is Deerfield, Ill.-based UNext.com's Cardean University, (www.cardean.com) which began enrolling students in July. It has partnered with academic heavyweights Carnegie Mellon, Stanford, the London School of Economics and Political Science, and the business schools at Columbia University and the University of Chicago. Technology-related learning suites or courses in the planning stages include Internet User Experience and Principles of Marketing.

Other companies offering distance learning for execs include Quisic (www.quisic.com), a Los Angeles-based company that hosts an Executive Excellence E-Business series for mid- to upper-level executives, and FT Knowledge, part of the Pearson Group (www.ftknowledge.com).

No doubt the number of strategic technology offerings on sites like these will continue to grow. So kick back in your home office, turn off the ballgame and learn online.

Browse the Bookshelves

When it comes to staying current with the latest and greatest technology trends, magazines and websites are the way to go. Does that mean books are a useless commodity, relics of a bygone business age when people worked 9 to 5 and the only computers in the office were bigger than a Ford Expe-

dition? Of course not. Books give space for parsing some of the most complex issues of the information age. You can delve into conceptual noodlings or grab a back-to-basics primer—your choice. Here's a sampling of books, culled from *Darwin* readers and staffers, that will help you understand the whos, whys and what-the-hecks of technology:

TECHNOLOGY PRIMER: *TechnoVision II: Every Executive's Guide to Understanding and Mastering Technology and the Internet*, by Charles Wang (McGraw Hill, 1997). The chairman of Computer Associates International explains technology for nontechie executives.

RADICAL THEORY: *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*, by Clayton Christensen (Harvard Business School Publishing, 1997) (HarperCollins, 2000). Why successful companies that make oodles of money by focusing on their customers have it all wrong.

SILICON VALLEY PIONEER: *The New New Thing: A Silicon Valley Story*, by Michael Lewis (Norton, 1999). Lewis gets inside the mind of Jim Clark, eccentric entrepreneur and founder of Netscape.

HAVE A BLAST: *Blown to Bits: How the New Economics of Information Transforms Strategy*, by Philip Evans and Thomas Wurster (Harvard Business School Publishing, 1999). How the Internet is deconstructing entire industries.

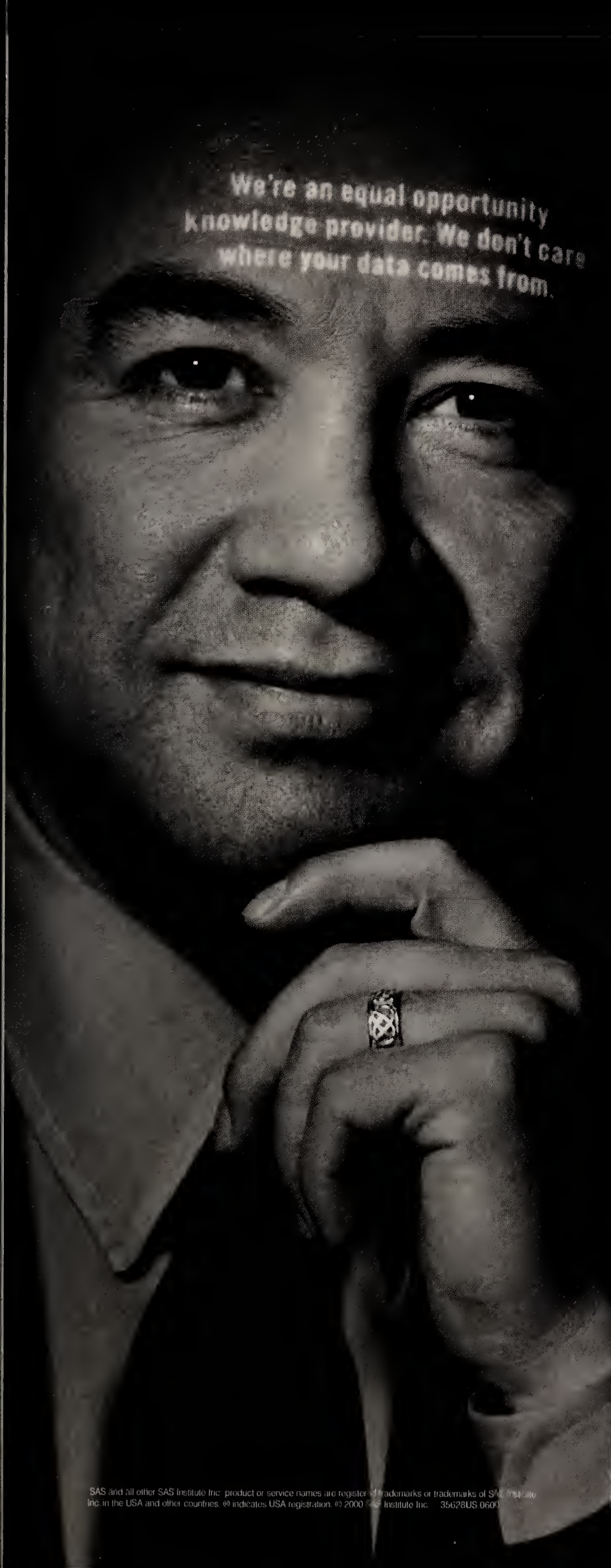
PASSION IN FASHION: *Clicks and Mortar: Passion Driven Growth in an Internet Driven World*, by David Pottruck and Terry Pearce (Jossey-Bass Publishers, 2000). Pottruck, co-CEO of Charles Schwab, and Pearce, founder of consultancy Leadership Communication, believe passionate leaders are key to achieving e-commerce success.

ThirdAge Media's English sums up why it pays to become techno-literate: "I think it's really important for people in their 40s and 50s to not be afraid to reinvent themselves. If you don't teach your old-dog mind some new tricks, you're going to fall behind."

Understanding technology, on the other hand, can help make you top dog. 

Got any other tricks up your sleeve for learning about technology? Help educate Senior Editor Todd Datz at tdatz@darwinmag.com.





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Share...and Share

Alike

**Xerox may have
troubles at the top, but
it's learning how to
manage knowledge
from the bottom up**

BY MEG MITCHELL MOORE

It's funny what can happen over a turkey sandwich. Witness what has come out of the kitchen at Xerox Palo Alto Research Center (PARC). Those familiar with PARC know it for its sharp minds and creative inventions. But locally it's known for something else: a cafeteria that boasts good, cheap food and a breathtaking view of the valleys surrounding San Francisco. Because these treasures are open to anyone with a Xerox badge, the technicians who service Xerox equipment in the area often stop by PARC for lunch. So it was here that they—the people who spend their working hours digging deep into the guts of complex machinery—met some of the top research minds who spend their days wrapping their brains around concepts that hover between the brilliant and the preposterous. As a result of those meetings, researchers and Xerox technicians came together to

Researchers at Xerox PARC (from left: Bob Cheslow, Danny Bobrow and Jack Whalen) developed a knowledge-management system to help service technicians discover and solve problems on the road.

PHOTO BY ROBERT SEBREE

Manager Craig Matzke remembers some resistance to the project. "Technicians thought, 'Here's another program that's going to create more work,'" he says.

develop a system for managing knowledge that flourished as a grassroots effort in a company that's not known for paying attention to the grass.

Now Xerox technicians are using knowledge management to share how they fix machines better and more naturally than most companies dream about. Call it an accident—a collision of the real world and the cerebral world that resulted in something thousands of Xerox employees use every day. Xerox calls it financial good fortune—the system that eventually came out of those PARC lunches has saved the company millions. It also carried a critical lesson for anyone trying to make sense of the bewildering world of knowledge management: True knowledge sharing has to start and end with the people who have the knowledge. This, then, is the story of how KM visited Xerox and left it a better place.

Tucked away behind one of Silicon Valley's main thoroughfares, PARC is funded mostly by Xerox and partly by the government. From behind its walls emerged such inventions as the first commercial mouse, laser printing and flat panel displays, while hundreds of other projects remain sequestered.

Our story begins with researchers working on artificial intelligence who wanted to see if they could replace the paper documentation that Xerox technicians used on the road with an electronic form. Some thought their lunchtime contact with technicians might help them test their theories of artificial intelligence (AI). They thought, "What if we built an expert system—a system that can "think" the way a person does—that would do the job of the documentation, suggesting fixes based on symptoms?"

The team—led by researcher Danny Bobrow and including software engineer Bob Cheslow and researchers Mark Shirley and David Bell—found that it was indeed possible to build software that could do just that. But when they showed their first efforts to technicians, the response was underwhelming.

What kept technicians from finding fixes was not that the documentation was paper-based but that it didn't address all the potential problems. And not all problems were predictable. Machines in certain regions could react to extreme temperatures in different ways. A can of Mountain Dew overturned in one part

of a machine could wreak havoc in another seemingly unconnected part. Technicians could handle these mishaps quickly only if they had seen them before or if another technician had run into a similar problem and shared the results.

Once the conversations with technicians revealed this gap in information sharing, the researchers realized that AI was the wrong approach. What Xerox needed instead was knowledge management. "It wasn't a smart computer program that was going to fix these things," says Cheslow. "It was sharing the best ways to make these repairs."

On the Road Again

Ever bring your car to the mechanic because of a strange rattle only to have it fall mute as you pull into the shop? It happens with copiers too. Technicians call these problems intermittent, and they can be the most time-consuming and frustrating. More to the point, they rarely get documented.

When a Xerox service technician faces a broken machine, it's man against beast, Captain Ahab and the great white whale. Typ-



ically, technicians service between two and five machines per day, and customers eager to make copies don't look kindly on a visit that doesn't result in a fix. What's more, if a technician can't fix a machine, Xerox's policy is to replace it—sometimes to the tune of tens of thousands of dollars.

When the PARC researchers realized they needed to look at the way technicians work, they spent time in the field, following the technicians from call to call. What they observed proved invaluable—knowledge sharing was already unofficially ingrained in the organization. Most striking was not how technicians solved common problems, but what they did when they came up against a tricky, intermittent one. Often they called one another on radios provided by the company. And in informal gatherings they shared vexing problems and their fixes.

What the researchers observed on the road matched what their efforts creating an AI system had revealed. "Finally we understood that what they needed most was the kind of help they get from each other," says Bobrow. And that was the beginning of something small that turned into something really big.

Meanwhile, another PARC researcher—a Frenchman named Olivier Raiman—was busy comparing the way French and U.S. technicians worked. Traveling back to France, he discovered that, while French technicians appeared to work from immaculate, uniform documentation put out by headquarters, their real solutions also came from a second set of documentation—notes they carried with them detailing what they'd learned. Raiman set up a series of workshops with expert technicians to ask what information they wanted to see shared. The workshops revealed that they had all come across similar problems and were eager to hear how others had fixed them. So Raiman started collecting the tips technicians had discovered and put them in a cen-

tral database. It was from that database that, back in Palo Alto, researchers started building the first laptop-based knowledge-sharing system.

PARC researchers took the first iteration to France and began a series of exhaustive sessions with the French experts in the Xerox headquarters outside Paris. In those sessions, something magical happened: The system took on the shape of the people working on it, evolving with each suggestion from the actual users.

But the worldwide customer service group didn't take the project seriously. "Nobody believed that the knowledge of the technicians was really valuable," says Bobrow. So, working stealthily, outside the realm of worldwide management, Bobrow's team gave laptops and the fledgling program to 40 technicians and matched them with a control group of technicians who relied solely on their own knowledge when fixing machines. After two months, the group with the laptops had 10 percent lower costs and 10 percent lower service time than those without—and the control group was jealous of those with the system.

These results were enough to convince PARC to front the money to build a new system, called Eureka, which was initially deployed over the French Minitel (a dial-up service from the French telephone company). As the workshops to improve Eureka continued, the researchers and technicians addressed knowledge-sharing issues: How would technicians know whether a tip was any good? Would they get credit? How would they know their tip wouldn't disappear into a black hole? From these conversations

"The people at the top felt that the technicians were not terribly clever."

—Danny Bobrow, Xerox researcher

emerged the validation system, in which experts in a particular area would test submitted tips before sending them live. Useless tips were discarded; others were certified as valuable or edited as necessary. It was agreed that tips would be validated within a few days, and the submitter's name would appear alongside the tip as both reward and incentive.

Management Says, "No, Thanks"

Even with the obvious excitement Eureka was generating in France, the project came up against a fairly formidable speed bump. The top dogs at Xerox remained unconvinced that such



PHOTO BY ROBERT SEBREE

knowledge sharing was worth its salt. Accustomed to ensuring quality of service through uniform manuals, management was reluctant to let service technicians have control over machine fixes. "The people at the top felt that technicians were not terribly clever and they didn't do very much; they were mostly just following the instructions that came out of the manuals," says Bobrow.

PARC software engineer Cheslow agrees. "The really hard-core resistance was that we can't have service reps cooking up these crazy ideas." And management worried that costs would rise if the tip system spread. But the opposite was true. In the first year of Eureka's existence in France, the system was seeing at least one new tip per day, with more than 20 percent of technicians having had submitted at least one tip and almost all using the system at least twice a week. And costs were falling, not rising.

Buoyed by the positive reaction in France, PARC wanted to press on. Having seen how eager French technicians were to share knowledge—and also eager to help create the system that would let them share it—they believed they had discovered something incredible:

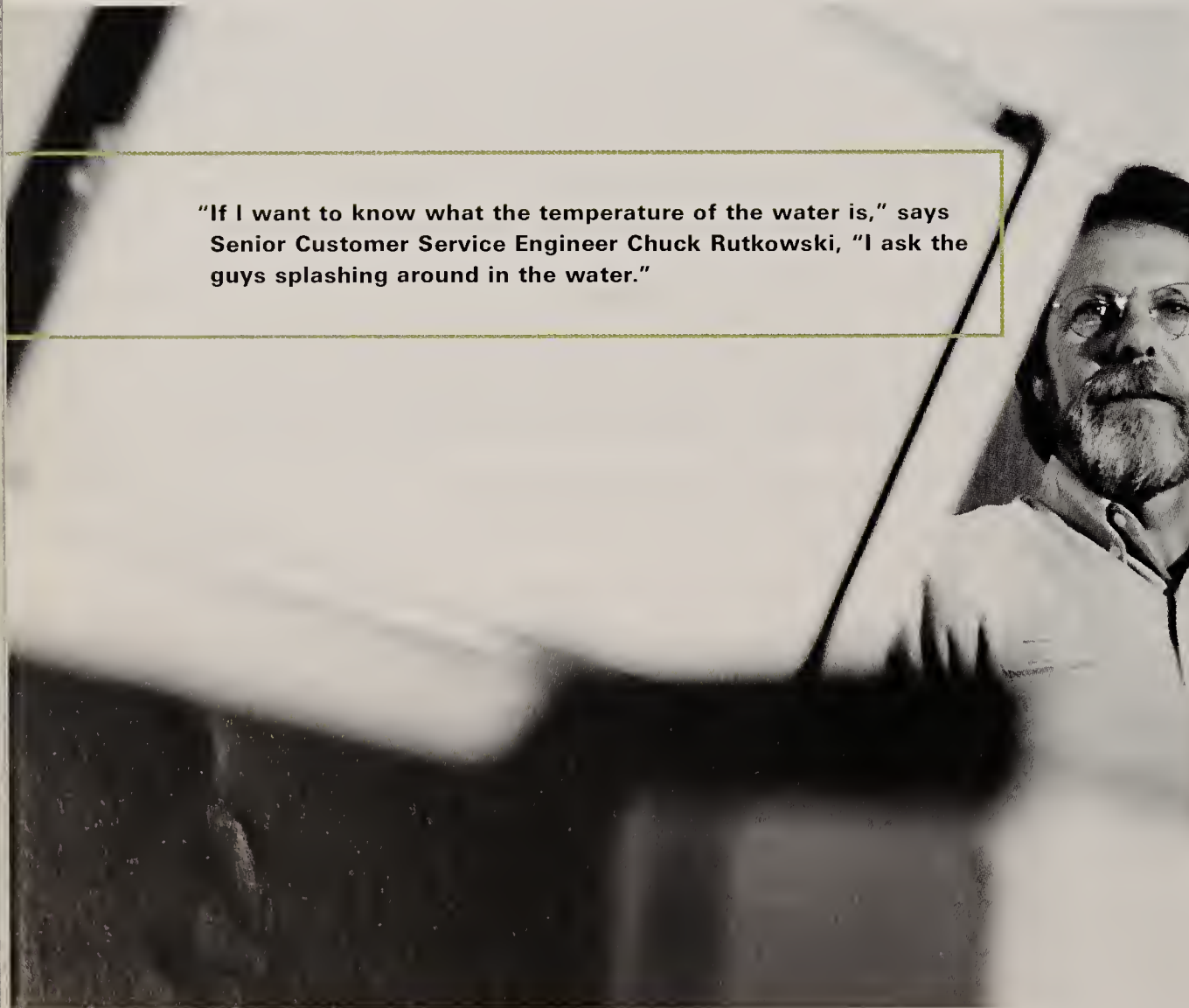
Listening to users was by far the best way to create a knowledge-sharing system. That became the heart of Eureka, and its appeal was pure and simple. "This was not something that was cooked up in the big brains at PARC and given as a generous gift to the service community," says Jack Whalen, a behavioral scientist who joined the Eureka team three years ago to lend his expertise to figure out how to roll out the system in the United States. "The ideas and practices we were trying to enhance were already there. That's why it works," says Whalen. And so it grew.

Next the researchers turned their attention toward Canada, which had about 1,200 technicians—the same number as France—and had just completed a laptop rollout. Still unsanctioned by management, Eureka was distributed quietly at first, handed from user to user on a floppy disk, like a bootleg Springsteen tape.

"We just did it. It was a guerrilla sort of thing," says Cheslow. "And it was clear this added to the sense of ownership." Then, with the results so good in France and the anecdotal evidence increasing in Canada, management started to pay attention, opening its wallet and doling out money and support bit by bit. By mid-1996, manage-

ment had begun to get behind it, and Eureka became official in Canada. That brought about new challenges, like reconciling the community-driven approach that had been the soul of Eureka with management's expectations for a top-down approach. In addition, some technicians expressed skepticism about the new technology. To quiet those concerns, one of the Canadian experts became an evangelist for the system, traveling around the country to demonstrate the glories of the new system. And the Eureka team remained adamant that the community be involved in suggesting and implementing change.

Then came the big one. "Eureka was planted in Canada based on seeds that were already there. But as soon as it started getting planted, there were other places with connections one way or another that were willing to go find it and get it," says Cheslow. One of those places was the United States, where the sheer size of the technician force—10,000—made it impossible to use the true guerrilla approach that had worked in the other two countries. Even so, it began to spread like a giant ink stain until management agreed to send it through official distribution channels.



"If I want to know what the temperature of the water is," says Senior Customer Service Engineer Chuck Rutkowski, "I ask the guys splashing around in the water."

Craig Matzke remembers some resistance as the project reached the United States. As the manager of customer service operations for Xerox in Wisconsin and Iowa, his group participated in the U.S. rollout early on. Accustomed to things being handed down from the top without much regard for actual work practices, technicians were reluctant to cheer when they heard another project was on the way. "They thought, Here's another program that's going to create more work," Matzke says. But as word about Eureka spread from people who had actually tried it and liked it, the idea caught on.

By 1998, Eureka was officially deployed in the United States and began to make its way around the globe. Today the system has more than 15,000 user tips, with more being added every day. The hope is that by 2002 it will be distrib-

uted worldwide to the company's 25,000 technicians. And already success stories abound. One technician in Montreal authored a tip about a 50-cent fuse-holder replacement that caused a chronic problem with a high-speed color copier. A Brazilian technician had the same problem, and his customer wanted the \$40,000 machine replaced. When he found the tip from Montreal in Eureka, he fixed the machine in minutes. Current estimates have Eureka saving Xerox at least \$7 million in time and replacement costs. It's tales like those that make senior management happy.

But beyond the knock-'em-dead stories, technicians like Chuck Rutkowski, a senior customer service engineer at Xerox in Madison, Wis., and a 28-year veteran of the company, use Eureka every day. Why? Because the information comes from the people who actually use it, so it is eminently useful. "If I want to know what temperature the water is, I'm going to ask the guys splashing around in the water," he says. "Not the guy standing on shore."

Busy technicians are starting to realize that taking the time to write a tip might pay off for them one day. "The more it works, the more likely you are to want to put something in," says Rutkowski. And then there's the motivation of having one's name in lights: "The fact is your name is there in front of thousands of your peers all over the world," says Cheslow.

But perhaps the best proof of Eureka's success is the way it has moved from a "last resort" tool to one of the first things technicians turn to.

What Now?

Of course with growth comes growing pains. Now that Eureka is in its second iteration, the new and improved Eureka II, it's no

longer a tiny grassroots effort championed by a few and ignored by many. And that means new challenges, like balancing the system's purpose with its potential. Cheslow notes that people want Eureka to be a catchall for all corporate information, and while that's technically feasible it might not be wise. "We've been struggling with the tensions of building it into something that is 'the one' and holding true to the principles that this is for supporting

The best proof of Eureka's success is the way it has become one of the first things technicians turn to.

the work practices," says Cheslow. And now that PARC researchers have moved on to other things—their job, after all, is to create, not to manage what they've created—it's up to Xerox to take Eureka to the next level.

Still, the lessons remain. "The breakthroughs here were in the way in which it was done, which was really tightly tied to what people's work was actually like," says behavioral scientist Whalen. "The heart and soul is so different from the way most corporations think about technical support."

So, in the end, did a little system started by a few researchers at PARC really change the way a whole organization looks at knowledge? Maybe. "I think there's a lot more recognition of the value of that frontline knowledge," says Whalen.

Did it change Xerox's acceptance of the importance of peer-to-peer knowledge sharing? "Absolutely," says Cheslow. "But it's hard to know yet if the lesson of working with the users has really been learned." Recently, the copier king has started on the path toward dethronement. The company posted third-quarter losses in October, and its stock has dipped into the single digits from a high of more than \$60 in May 1999. Many Silicon Valley insiders intimate that part of Xerox's troubles spring from its failure to take advantage of ideas cooked up in PARC's labs. Now Xerox is seeking noncompetitive partners for the research center to help turn inventions into business plans and ideas into hard cash. But that doesn't mean there isn't a lot to be learned from the PARC's journey toward knowledge sharing. No matter how you slice it, it's funny what can happen over a turkey sandwich. ■

How are knowledge-sharing efforts faring at your organization? Let Senior Writer Meg Mitchell Moore know at mmitchell@darwinmag.com.

memo to my diary

They had venture capital, scooters with logos and kids who could shovel snow. How could this startup fail?

By Daintry Duffy

Kafloozle.com!

Date: Oct. 22, 1999

To: Neil & Binger

From: Bryan

Subject: A fantastic beginning!

Hey guys,

After months of sunlight deprivation and way too much of Neil's secondhand smoke, it looks like we'll finally be moving out of Binger's mom's basement. I found an office over on Second Street that we could probably afford for a couple months. It's pretty small, but I think it's really important that we get moved in there before next week's meeting with the VC folks at E-Wampum Inc. I'm really excited for you guys to meet Chad Cashman, our contact over there. He totally gets what we're trying to do with the company and thinks the idea of providing an online liaison between local kids and people in their neighborhoods who want chores done is really unique. He also digs our Kafloozle name. I didn't tell him about all the sleepless nights that went into that!

On the affiliate front, I have more good news. Due to some marathon neighborhood canvassing, we have signed up almost 80 more Kafloozle kids in the past two weeks (23 in the 8-to-10-year-old bracket, and about 51 in the 10-to-14 range). We've been getting a lot of one-time jobs like leaf raking and car washing for the kids, but as neighborhoods get to know their local Kafloozie, I'm sure we'll start to generate more requests for the higher-end service calls like daily dog walking and gutter cleaning.

BTW: What do you think of this as a possible branding slogan:

"Kafloozle: The Service You Can Really Uzle."

With the right jingle, I think it could be catchy.

Peace,

Bryan

Kafloozle.com!

Date: Dec. 14, 1999
To: All Kafloozle employees
cc: Chad Cashman
From: Bryan Baker, CEO
Subject: Our future is secure!

Welcome to all our new Kafloozies!

I can't begin to tell you how encouraged I am by the recent growth in the ranks of our Kafloozle kids and corporate staff. The response to the hard work of all our Kafloozies, who are out there in the neighborhoods each day in their bright yellow and orange jackets, has been phenomenal, especially during the holiday season when trees need to be carried, walkways shoveled and logs chopped. Even though we have started some limited advertising in select areas, word of mouth and the diligence and friendliness of our affiliate continue to be our best sales tools.

It is because of this terrific effort that I am able to announce today that we have secured \$3 million in funding from our good friends and partners at E-Wampum Inc. As you may know, they provided us with some seed capital a few months ago to get us going, but this first round of significant funding is a true expression of their belief in our business plan and vision for Kafloozle.

Rock on!

Bryan

P.S. Effective immediately Kafloozies will no longer take holiday light-stringing jobs due to some recent incidents involving power surges.



Kafloozle.com!
The Service You Can Really Uze

Date: Feb. 22, 2000
To: All Kafloozies
cc: Chad Cashman
From: Bryan Baker
Subject: Remember: Only the successful get sued

I know that some of you are concerned about the recent legal actions brought against the company by some Kafloozle customers. Let me assure you that we are working closely with E-Wampum's legal team to bring these matters to a satisfactory resolution for all parties involved.

While we try to screen our young applicants carefully, it is inevitable that we end up with a few bad eggs—kids who don't have the natural enthusiasm and can-do Kafloozle attitude that distinguishes most of our affiliates. However, in this period of explosive growth, I don't believe that we can let that slow us down. Therefore, we are instituting a new screening process for our applicants that will involve the administration of a Myers-Briggs test followed by intense interviewing with a psychologist trained to identify dissociative disorders. We think this will allay many of our customers' concerns. Additionally, it has become clear that we need to rethink some of the assignments we have been giving to the younger kids. A boisterous 11-year-old may make a fine window washer, but give that kid an ax...and, well, I know we were all shocked and appalled by the Joey Curtis incident. It is with this last issue in mind that we hired Maureen Johnson, a 36-year veteran of the New York City school system with a doctorate in criminal justice, to be our new vice president of assignment selection. She knows, perhaps better than anyone, the importance of ensuring that kids have the necessary emotional maturity to handle the assignments they are given. Welcome, Maureen!

Cheerfully yours,

Bryan

Fiction



Date: April 24, 2000
To: All employees
cc: Chad Cashman
From: Maureen Johnson, VP of AS
Subject: Appropriate corporate language

It has been determined by my office—in consultation with several experts in the area of child psychology—that we should immediately halt the use of the term “Kafloozies” in reference to our young affiliates. We feel that this term, and an unfortunate derivative of it, could be emotionally damaging, especially to some of the impressionable young ladies we employ.

Effective immediately our affiliates will be referred to in all written and verbal communication as “Kafloozle kids.”

That's all,
Maureen



Call me before
using these two!
—B
Brittan & Alex, 10, 12



Date: April 27, 2000
To: All employees
cc: Chad Cashman
From: Grant Randall
Subject: Meet your new boss

By way of a formal introduction, I am Grant Randall, Kafloozle's new CEO. As most of you are aware, Bryan Baker is transitioning into a role more in keeping with his unique talents, that of Kafloozle's new chief evangelical officer. This is indeed an exciting move for Bryan as it will give him more time to communicate the Kafloozle mission. For those of you wondering about my background, I should point out that I have been the top executive at no less than six dotcom startups—two of which are still in business today. When the folks at E-Wampum Inc. approached me with this opportunity, I was incredibly impressed with the strength of Kafloozle's business model.

As many of you have undoubtedly heard, we would like to take Kafloozle public in the next year. To set us on this course, I am announcing that as of today each Kafloozle kid affiliate will get a brand-new Kafloozle scooter with our distinctive logo emblazoned on the side. This will not only create a greater awareness of our brand and services, it will enable our affiliates to take on more jobs and cover a larger neighborhood area. We hope that it will also lure in more Kafloozle kids, as affiliate recruitment numbers have taken a precipitous dip in the past few months.

Let's keep the hard work coming!

Regards,
Grant Randall

P.S. We have decided to remove the exclamation point from the Kafloozle.com logo as we feel it detracts from the gravitas of our business model.

No prize could be more valuable than your reputation as a service provider customers can always count on to keep pushing their business ahead. No matter how fast they grow.



Today, there's no surer way to make that happen than by being an EMC Proven company. The EMC Proven logo shouts loud and clear that you have the EMC information storage infrastructure to support the kind of service-level agreements your customers demand, as well as provide rock-solid applications. And do it faster than the next guy.

Keep your eyes on the **prize.**
We'll keep ours on the **data.**

As customers look for more assurances, more of them are looking for the EMC Proven logo. To find out more about the special programs EMC offers service providers, contact us at EMC.com/sp



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Kafloozle.com
The Service You Can Really Uzzle

Date: Aug. 2, 2000
To: All employees
cc: Chad Cashman
From: Grant Randall
Subject: This is not a bank!

As I look around the office, I'm troubled to note that, by 6:30 p.m., there are only eight people here. Since we now have 63 employees who work here in Kafloozle's main office, I find this unacceptable. While the Kafloozle kids may be given extraordinary advantages because of child labor laws, I assure you that no such policies exist for the adult employees of this company.

If you think that our work here can be done within the leisurely confines of a 9-to-5 workday, you are sorely mistaken, and I would question your commitment to Kafloozle's mission and your understanding of the complexity of our venture.

As things stand, we are way behind on our revenue and recruitment goals. Given the severity of this situation, I am instituting new office hours effective immediately. All employees are required to be in the office from 8 a.m. until 7 p.m. with 10 minutes for lunch. Anyone who has a problem with this is free to speak with me, but there will be no exceptions.

Your required cooperation is appreciated.
Grant

Kafloozle

Date: Aug. 28, 2000
To: All employees
From: Grant Randall
Subject: IMPORTANT MEMO

It has come to my attention that a copy of my Aug. 2 memo addressing the institution of new office hours was forwarded to a website titled Fu**edCompany.com where it has been posted on the message board.

It should not be necessary for me to remind the employees of a pre-IPO company that the distribution of any such sensitive internal documents jeopardizes the company's financial future as well as the responsible individual's employment future here. I have also been advised that some of the less committed members of our staff have been placing bets on this site as to whether our company will "tank" in the near future. The lack of maturity exhibited in this practice is stunning, and I can only hope that last week's regrettable layoffs weeded out the responsible individuals.

Grant Randall

P.S. You will note that we have decided to drop the ".com" from Kafloozle's logo in response to recent market conditions.

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If a Banner Appears and No One Clicks, Does it Exist?

In today's ever-changing world of online marketing, you need people to do a whole lot more than click on a banner. You want them to *convert*. To develop a lasting relationship with your site. To register. To transact. To come back.

But as it turns out, click-through rates alone tell only a small part of the story of online marketing effectiveness. In fact, a recent study by Engage reveals that the influence of banner ads — and online advertising in general — goes far beyond the click. According to the study, of all conversion events that occur after users view a banner ad, *only 24% actually clicked on the banner.*

Surprise — when it comes to online marketing success, banners count for a lot more than clicks.

What does this mean for online marketers? That while clicks still count as a barometer of success, the potential impact of online advertising reverberates much further. And that it's time to focus less on clicks, and more on results.

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Truly actionable and results

focused planning, measurement and analytic tools. And profiling and ad serving technologies to better connect with online audiences. All with a common goal: to drive the overall impact of online advertising for our clients.

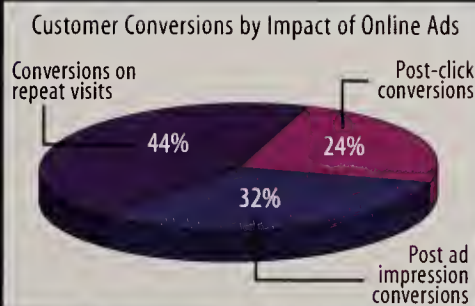
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Biggest Ad Impact is Not From Banner Clicks



Kafloozle

Date: Nov. 21, 2000
To: All employees
cc: Chad Cashman
From: Bryan Baker
Subject: Funding

Since Grant Randall, our tireless CEO, has been on the road so much recently, he asked me to give you a funding update. As many of you heard last week, E-Wampum Inc. declined to offer Kafloozle a second round of funding. The current rocky market conditions combined with the necessity of locating alternative funding resources leave us little choice but to withdraw our current plans for an IPO. While I realize that many of you will be discouraged, I hope this will be only a temporary setback.

I'm certain that once the market regains a steady footing we'll again be recognized by investors for the significant promise of our business model.

Courage.

Bryan Baker

P.S. The surprise going-away party for cofounders Neil Winkler and Bill Binghampton has been downsized to a brief congregation by the front door at 3:00 p.m., to be followed by hearty proffers of assistance in toting out their personal effects. Shhhhh! :)

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Kafloozle.com!

Date: Feb. 15, 2001
To: All employees
From: Bryan Baker
Subject: Farewell

I know that many of you were saddened by the recent departure of Grant Randall, who left Kafloozle to assume the CEO position with another startup company. We, of course, will all miss Grant's leadership and energy and wish him the best of luck in his new venture.

As many of you also know, the executive team has worked very hard in the past few months attempting to locate new funding for Kafloozle. While I held out hope that we would eventually be successful in this endeavor, it now appears that we will not be able to secure new funding within a time frame that would allow us to keep Kafloozle running and still meet our payroll responsibilities.

It is with tremendous regret that I announce that effective Feb. 16 at 5 p.m. Kafloozle will be shutting down all operations.

I have enjoyed working side by side with each and every one of you, and I appreciate the heart and soul that you all poured into this company.

I feel like crap. Man, I feel like crap. You've been like a family to me. Kafloozle lives on.

Bryan

P.S. In lieu of severance packages, please stop by the security desk on your way out today to pick up a Kafloozle scooter as an expression of our gratitude for all your hard work. I've been advised that the handles can be raised.

If you have a dotcom disaster story to share—real or imagined—contact Senior Writer Daintry Duffy at dduffy@darwinmag.com.

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STREET GUIDE TO ESSENTIAL WEBSITES AND STRATEGIES

Edited by Todd Datz



Ad Zapper

BLOCKING SOFTWARE They blink incessantly, use garish colors to grab your attention and are a general annoyance to everyone who sees them. No, we're not talking about the tacky Christmas lights your neighbor still hasn't taken down from his porch. We're talking about Web ads—those ubiquitous, flashing banners that hog your network's bandwidth and may even be invading your privacy by tracking which sites you visit. Many companies offer ad filtering software that relies on pattern matching to identify ads by their size or Web address. (For example, such software recognizes that something rectangular that comes from a server at online ad vendor DoubleClick is likely to be an ad.) But pattern matching alone identifies only 10 percent to 12 percent of the bandwidth that contains Web ads, according to **Thomas Matheson**, president of ad-filtering software provider Guidescope. Why? Because crafty advertisers have found ways to disguise where an ad comes from to stay one step ahead of the blocking software. "Filtering ads is sort of an arms race," he explains.

Matheson claims his company offers Web surfers a new secret weapon against ads—one that can triple the percentage of ads blocked. Guidescope uses pattern matching to identify ads. But when Guidescope users see an ad that the company's software hasn't blocked, they can instantly block it on their computers by clicking on a pop-up window. Guidescope adds the offending ad to a central database so that it will be blocked for all other Guidescope users.

The service is free to consumers, Matheson says; a recently completed corporate version costs roughly \$10 per user per year.

—Sari Kalin

web guide

Knowledge Management

Still trying to figure out what knowledge management is? You're not alone. The practice of finding, organizing and managing people's knowledge has left many managers and execs scratching their heads.

But this once-theoretical discipline is here to stay. According to PricewaterhouseCoopers and the Conference Board, 80 percent of the world's biggest companies are dabbling in knowledge management, also known as KM. The following websites will help you figure out what all the fuss is about.

WWW.BRINT.COM/KM

It may not be pretty, but this busy portal is one of the deepest sources of KM articles and resources out there. It contains primers (with titles such as "Knowledge Management for the New World of Business" and "What Really Is Knowledge Management?"), as well as interviews and columns reproduced from other IT-focused publications.

Note: These pieces tend to sway toward the punditry of KM advocates **Thomas Stewart**, **Paul Strassman** and **Yogesh Malhotra** (who is also the chairman and CKO of Brint.com's parent

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Novell's vice president of consulting, Alex Salehi has a big job – keeping 1,000 consultants and tech-support professionals working at peak efficiency. "Our organization works in tandem with Novell developers to deliver technical solutions for customers worldwide," he says. To keep everybody on track, Salehi turned to Evolve. "Evolve was clearly the best way for us to efficiently manage our army of field consultants and partners. With Evolve's solution we took charge of our most valuable asset - our professional workforce."

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A Woman's Intuition

GENDER FINANCE For many a netrepreneur with big expansion dreams, last April was the cruelest month indeed. Dotcom stocks tanked—and so did Tiffany Bass Bukow's hopes of raising a \$20 million second round of financing for MsMoney.com. Her financial portal for women was already profitable. But for

it to grow, she needed to find investors with deep pockets. "With the market fallout in B2C, it was too difficult to raise the money," says Bukow, MsMoney.com's CEO, who founded the San Francisco-based company in 1999.

The only way to survive was to adapt. MsMoney now does Web consulting and design for banks, building on the company's expertise in designing content for women. "Women are twice as likely to choose a bank for the family as men are and are twice as likely to manage money," Bukow says.

Running a Web consulting company is a familiar pursuit for Bukow. Prior to launching MsMoney, Bukow founded and became CEO of Tiff.com, a Web services company. In 1996, when Tiff.com was just getting off the ground—and when women made up only 18 percent of the online population—Bukow registered the MsMoney domain name. By 1999, when she decided to morph Tiff into MsMoney, women made up 50 percent of the online audience.

The MsMoney.com site gives the company credibility and shows proof of concept for potential bank clients. The site offers financial tools and content aimed at women. It also hosts discussion boards with topics such as "budgeting for single parents" and "how money affects the relationship." In the hopes of driving more traffic to MsMoney without running a major marketing campaign, the company has partnered with WomensForum.com, a network of women-operated and female-themed Web businesses. Even with this effort, the Web consulting work still seems to have greater growth potential than the consumer site does at this point, Bukow says. But both endeavors share one important similarity. "We're still catering to the end consumer." —Sari Kalin



tiffany bass bukow
netrepreneur

web guide ...KM

company, the Fort Lauderdale, Fla.-based @Brint Institute).

Find names of more KM advocates, and maybe some naysayers, through Brint's collection of conference presentations and white papers. The site also offers an extensive bibliography. Using these resources, you can find a wealth of companies that have instituted KM technologies (such as database applications and collaboration tools) and enterprisewide programs. And, as with any good KM tool, Brint's site hosts the obligatory discussion rooms and a membership-only area, called the Knowledge Executives Network (KEN), where executives share and read about each other's intellectual capital.

In addition, Brint.com's executive job announcement page lists titles such as director of KM at AARP, knowledge manager at the American Institute of Certified Public Accountants and senior knowledge manager at a venture capital incubator.

WWW.KM-REVIEW.COM

This is the website for Melcrum Publishing, publisher of the *Knowledge Management Review* newsletter as well as three other newsletters, *On Message*, *Strategic Communication Management* and *Total Communication Measurement*. The site posts a fair amount of editorial content (all its own), written by staff writers, consultants and executives. Bookmark it and

NQL's remarkable new enterprise-wide software platform now allows the ability to deploy and transform information residing in any data source, including legacy systems and web sites, into any information device or popular application where it can be reconfigured in any manner, to suit any user.

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The Top 10 Web Searches of 2000

- | | |
|----------------------|---------------------|
| 1. Britney Spears | 6. Pamela Anderson |
| 2. Dragonball | 7. Tattoos |
| 3. Pokémon | 8. Napster |
| 4. WWF | 9. Jennifer Lopez |
| 5. 'N Sync | 10. Summer Olympics |

SOURCE: LYCOS, WHICH MEASURED THE NUMBER OF LYCOS USER SEARCHES

Marketplaces Breathe a Sigh of Relief

THUMBS UP FROM THE FEDS Anyone who has put off joining or building an online business-to-business marketplace because of antitrust concerns has to be heartened by the word from regulators in the United States and Europe. Last fall, the Federal Trade Commission and Germany's Bundeskartellamt (the equivalent of the FTC) gave the green light to Covisint, the auto-makers B2B marketplace (see "Lions and Tigers and Bears and the FTC," August/September 2000). In the FTC's review, the agency noted it "cannot say that the implementation of the Covisint venture will not cause competitive concern" because the venture had yet to adopt operating rules—leaving, in the minds of some observers, a question about precisely what rules might ruffle the FTC's feathers. That question appears to have been answered by an FTC staff report, "Entering the 21st Century: Competition Policy in the World of B2B Electronic Marketplaces," released last October.

The report, based on a workshop the FTC held on the topic last summer, does not carry the weight of an official FTC ruling. But it does give a window into the agency's current thinking—and that thinking apparently sees B2B marketplaces as having the potential to do more good than harm. "The report indicates that the FTC came away from the workshop with an appreciation for the efficiencies that B2Bs can generate," says **William Kovacic**, a professor and antitrust expert at George Washington University. "The commission will watch B2Bs carefully, but it will do so from a presumption that most of these transactions have a procompetitive status."

The report outlines how existing antitrust principles apply to the online world. It also delineates what aspects of B2B marketplace operation will face agency scrutiny, such as information sharing among competitors (thereby making it possible for them to collude in setting prices or production levels) or the exclusion of rivals (thereby putting rivals at a competitive disadvantage). "With thoughtful advance planning, prospective B2B participants can use the staff report to design their venture to avoid serious antitrust risks," Kovacic says. In short, the report is a must-read for anyone who is thinking of taking the B2B marketplace plunge. You can find a copy at the FTC's website, www.ftc.gov.

—Sari Kalin

web guide ...KM

return every month for new case studies, articles detailing best practices and bare-bones primers that answer questions such as "What is tacit knowledge?" "How do you leverage customer information inside the organization to create value?" and "How can knowledge management act as a catalyst for innovation?" Many of these primers are written by analysts who promise to publish answers to questions e-mailed to them.

WWW.KMWORLD.COM

This site for *KMWorld* magazine posts the print publication's features and editorials, many of which are written by KM gurus such as **Bruce Silver** and **David Weinberger**, as well as news bits on KM-related deals, products and financial announcements.

This rich site also posts interactive polls, lists of upcoming conferences and a buyer's guide with names of KM hardware and software vendors and consultants. Don't miss its list of 1,000 companies "that matter in KM."

—Emelie Rutherford



YOU, WITHOUT NETSCOUT.

*Without visibility, your network is lost. Only NetScout guides you through stormy waters with the **nGenius™ Performance Management System**. You can measure application and network performance, anticipate future capacity needs, reduce the cost of your operation, and quantify the effectiveness of your infrastructure investment. To receive your free informational CD and get your company out of the fog, call 1-888-999-5946 or visit www.netscout.com/cio. Make your e-business infrastructure investment count... before your company hits the rocks.*



Save Yourself the Aggregation

TECH RESEARCH You're interested in seeing what your competitors are doing in e-commerce. You search the Web, but by the time you've finally compiled reports from 30 sources and weeded out irrelevant information, the research is practically obsolete. North Adams, Mass.-based MindBranch says it offers a better and faster way to slog through the swamp of research reports.

MindBranch (www.mindbranch.com) is an aggregator of technology-oriented research. It offers its 1,500 clients a one-stop destination to reports by 300 publishers, analysts and consultancies. The company provides research on eight vertical industries—business and finance, communications, computers, consumer products, health care, industrial markets, Internet and manufacturing. Type in financial management, for example, and you'll get back listings for 397 tech-related reports, such as "eInvesting Report, November 2000," by eMarketer, for \$795, and "Financial Services Package," by Forrester Research, for \$199. About 70 percent of the publications are downloadable, and the company snags 40 percent to 60 percent of the retail price. The report prices fall within a broad range—one report from ElectroniCast recently listed for \$18,000, while a piece from *The Wall Street Transcript* was available for \$50.

MindBranch's new CEO left the post of president at Lexington, Mass.-based Standard & Poor's DRI to head the company. **Alton Adams** joined the 8-year-old organization (formerly known as Publications Resource Group) as CEO in July, trading in his Boston condo and hellish city commute for a colonial in Vermont and a 15-mile scenic drive. "And I wanted to be closer to changes that were happening as a result of the Internet and not where the Internet was just a minor channel," says Adams.

—Lauren Capotosto



Weird and Weirder

Sam Walton's Legacy

MEMBERS.TRIPOD.COM/CARTCREW

For all you folks whose retail employment entailed collecting carts in the store parking lot, here's a site that will make you proud—well, maybe not—to have "cart rounder-upper" on your résumé. It's a group of 98s (that's Wal-Mart's code for cart people) who share pictures, news, and parking lot gossip from Wal-Mart store No. #0766 in Florence, Ala. Stupid? Yeah. Cool that they can still maintain a sense of humor at \$6 an hour? You betcha.

Amputations and Other Stories

WWW.NEWSOFTHEWEIRD.COM

If you're the type who likes your bizarre news to be authentic, check out this site. You'll discover that a gentleman from South Korea tried to scam his insurance carrier out of \$40,000 by chopping off his own feet and that a city council member in Albuquerque, N.M., recently called the mayor an "incorrigible little turd."

One-Hit Wonders

WWW.BILLBOARD.COM/SR/HOT100/CHARTLIST.HTML

This page on *Billboard* magazine's site is nirvana (no pun intended) for music lovers. It links you to lots of Billboard Top 10 charts, such as the Top 10 Body-Part Songs (Kim Carnes's "Bette Davis Eyes," B.J. Thomas's "Raindrops Keep Fallin' on My Head") and the Top 10 Animal Songs (America's "A Horse with No Name," Rick Dees & His Cast of Idiots' "Disco Duck"). And no good cocktail music discussion is ever complete without tossing out favorite one-hit wonders. *Billboard*'s Top 10 list includes 1969's "In the Year 2525 (Exordium & Terminus)," by Zager & Evans, 1982's "Chariots of Fire," by Vangelis, and 1963's "Dominique," by The Singing Nun. Note to the newly engaged: There may still be time to book Vangelis for your wedding reception.



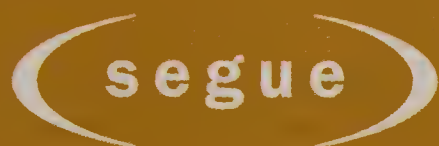
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What's Your Problem?

If you don't know, your software salesman will be happy to figure it out for you—and that could be a big mistake



Sales reps want to sell you their "solutions"—that's marketing-speak for hardware or software aimed at a specific business need. Your challenge is to identify the problem you're trying to solve before you get ensnared by a sales pitch. If you don't do this due diligence up front, your "solution" will become your problem. I know—I used to be a software salesman, and I've worked with many customers to replace systems bought from someone else that just didn't cut it.

In the software business, it's common knowledge that a customer uses less than 50 percent of a system's features and functionality. Smart buyers make sure that the 50 percent their companies will use solves the prob-

lems they have today and the problems they'll have several years into the future.

How can you make sure software solves your problems rather than creating new ones? Take a hard look at your current business practices and what needs fixing. Figure out what challenges you face, then use this information to develop the requirements for your system. Do these three things before deciding what type of technology you need—and before you even think about meeting with vendors.

Figure Out What You Need—Not Just What You Want

I bet that you have a food processor tucked away somewhere in your kitchen. If it's like mine, it's collecting dust. Why? You bought it because you wanted one, not because you really needed to make coleslaw for 30 people. The same thing can happen when companies purchase technology without doing a clear evaluation of their needs. I know of many companies that bought systems because they wanted a particular brand (you know that old saw, "No one ever got fired for buying IBM.") or because they wanted to keep pace with the latest fad. They wound up not using their expensive new systems because the systems didn't solve the companies' problems.

How do you figure out your needs? First, look at your present situation. Say you're the head of human resources, and your company doesn't have a central place for human resources and benefits information. When employees call to ask about their benefits, your HR representatives have to look through stacks of summary plan descriptions, rifle through the employee handbook or rely on their memory to find answers.

Ask yourself, What's wrong with this process? Be specific. Say to yourself, Not having a central repository means it takes human resources employees 30 minutes to answer each employee question, and it takes 20 days to train new employees.

Now that you understand what's wrong with the process, state your goals, and put them in terms that are

measurable. This advice may sound obvious, but believe it or not, many executives don't do this before they pick a software package—a big mistake. I can't count how many times I've seen potential software buyers sit passively and let me run through my PowerPoint slides and demos without stopping me to ask how the system will solve their specific problems—another no-no. Let the vendors know your objectives and how you will measure the success of their technology—and make them show you how their technology solves your problems—because if you don't, I can guarantee that your goals won't be met.

Check Your Wallet and Your Schedule

Once you've assessed your present situation and determined your goals, you should list the challenges you face in selecting, implementing and using the new technology. The most obvious challenge is your budget. Another significant challenge is time. If you have a deadline, it will influence the technology you select because not all vendors can meet an aggressive implementation schedule. For example, one company evaluating HR software needed a system that would be functional in time for its special benefits enrollment period. The software had to be ready when the employees received their new benefits information. The company met its deadline because it knew that time was a major issue, and it raised it up front with the vendor. Meanwhile, another company I know of failed to make time a priority; it is still implementing the manufacturing solution it purchased two years ago.

When determining your challenges, look at what is unique about your company and your department. The technology you choose must be able to accommodate your company—your company should not have to change the way it does business to accommodate the technology. One company I know of has more than 300 health plans (an unusually high number) and 60 HMOs. This was a challenge when looking for HR software because very few HR knowledge-based systems were able to handle all of the company's plans.

Put Your Requirements in Writing

After you have figured out your goals and challenges, list your system requirements in order of importance. Every need and challenge can be distilled into a requirement that you can give to a vendor as part of your request for a proposal. But don't forget the requirements that are not tied to your goals and challenges. If your company has standardized on Sun Microsystems servers that run

Solaris (Sun's version of the Unix operating system), make sure the software you buy runs on Solaris.

Look for constraints in your environment. Must the new system integrate with existing enterprise resource planning software? What about with other software that your department or your company is planning to roll out next year or the year after that?

The technology you use must be able to accommodate your company—your company should not have to change the way it does business.

Don't forget about the people who will be using the technology. If they are not computer savvy, ease of use might be a requirement. Surveying the people who will use the system—or will be customers of the people who will use it—is a great way to find out what is important to them. At one company, a survey showed that employees wanted accuracy and responsiveness from the HR department. This need became part of the criteria used to evaluate HR software.

Don't Get Sloppy or Lazy

Failing to do this prep work can waste time and money—and can even create new problems. One company I know of did a great job of listing its needs, but it forgot one key requirement: the fact that the company's customer service department was growing exponentially. As the company grew, the system was unable to grow with it. Eventually, the company had to migrate to a system with a back-end database that could handle the additional users—an expensive move that could have been avoided had the head of customer service done a little more thinking about his problem up front and identified system scalability as a need.

This early due diligence may sound like drudgery. But it isn't something that you can just hand off to the IT department. No one there knows your problems better than you do. ■

Wayne E. Pollard, a former marketing director and regional sales manager, has performed hundreds of software demos and is currently a freelance writer. He hasn't used his Cuisinart in two years. You can reach him at wpollard@home.com. Send column ideas and comments to spincycle@darwinmag.com.

the fittest

Edited by Todd Datz

STUFF YOU NEED
IN YOUR BUSINESS
SURVIVAL KIT

winter gear

Dreaming in White

When it snows, do you secretly wish your company would close down for a snow day so that you could go outside and play? Winter is the time to fully embrace your inner child, but now that you're a big kid, there's more to do outside than making snow angels and terrorizing passing cars with well-aimed snowballs. Here are a few of the requisite toys for proper winter regression therapy.

Big Shoes to Fill

There are certain things that are so simple and basic they will remain unchanged forever, right? Wrong. The venerable snowshoe, the centuries-old tool of the Eskimos, continues to be reshaped and redesigned into a high-tech toy for winter hikers.

One of the latest iterations, the **Denali Hiker** from **Mountain Safety Research** (\$99.95, 800 877-9677, www.msrcorp.com), is constructed of durable injection-molded plastic with built-in serrated edges for added traction and front and rear brake wings to prevent slipping while descending. At slightly more than four pounds a pair, the Denali Hiker is so light you may forget you have anything on your feet.

The hinged binding pivots as you walk, which allows a natural motion for your feet and keeps the snowshoes in contact with the snow. Steel crampon teeth built into the binding give you serious grip while hiking up or down hills. One of the best features of the Denali Hiker is the triple-strap binding that is both secure and easy to operate, even with snow-encrusted mittens. It will accommodate boot sizes 4 to 14, although if you're in the higher end of that range, you might not need snowshoes in the first place.





Patriot Missile

True to its name, the Patriot comes decked out in snazzy red, white and blue graphics, but the real story with this ski is under the skin. The **Patriot GT6** from **K2 Ski Corp.** (\$775, 800 972-4063, www.k2skis.com) is built with a fiberglass/titanium laminate and plenty of the latest technological gizmos. For example, the Patriot GT6 uses K2's Smart Ski Technology, in which piezo-ceramic electric damping sensors are built into the forebody of the ski. These sensors absorb the mechanical energy of the ski's vibrations and convert it into electrical energy. You'll know the damping system is working when you see the red lights on the top of your skis flashing, but don't spend too much time looking down or you'll be setting yourself up for one big yard sale (skier's vernacular for a spectacular fall in which one spreads his equipment all over the hill). Unlike the Gulf War version, this Patriot always hits its target.



Clear the Air

The Foggy Goggle is both a clever name for a pub located at the base of a ski resort and one of the biggest annoyances for skiers and snowboarders. The **Smith Cascade Turbo Cam** (\$180, 208 726-4477, www.smithsport.com) solves that nagging problem with a built-in microelectric fan that provides constant air movement within the goggle. Fog be gone.

A clear view of the mountain from inside the goggle is critical, for sure, but how the goggle looks from the outside is also important. The stylin' Cascade Turbo Cam comes with midnight blue, bone white or carbon black frames, and gold or rose colored lenses. Now you'll see those bumps with dazzling clarity before they send you flying.

Leg Warmers

SmartWool (\$59.99, 800 550-9665, www.smartwool.com) makes high performance long undies that don't itch, even though they're wool. The fabric wicks moisture away from the body, which helps keep the body warm and dry in cold weather, and the undies aren't prone to the, um, *eau de skier* that comes with repeated wearings of the polypropylene variety.

Ski Country

These aren't your daddy's skinny skis. Cross-country, a.k.a. Nordic skis, come in a bewildering array of styles these days, from the shorties for skating (skiing with a skating type of stride) to traditional, longer skis that perform well on machine-made ski tracks. If you really want to go cross-country—that is, over hill and dale rather than 'round a man-made track—check out backcountry skis, which are beefier with a pronounced side cut that gives more control in natural conditions. We like the **Super Stinx** from **K2 Ski Corp.** (\$430, 800 972-4063, www.k2skis.com), which love soft snow but also perform well in sloppy stuff.

Hot-Blooded, Check It and See

If you've ever been driven indoors by cold extremities, **Crazy Creek Products** (\$6.99 for a packet of two, 800 331-0304, [www.thermaband@crazycreek.com](mailto:thermaband@crazycreek.com)) has an ingenious solution that keeps hands warm. Called **Crazy ThermoBands**, these wrist straps have small pouches to hold disposable **Crazy HotPads**, made from nontoxic, all-natural materials. Just stick the pad in the pouch, strap them onto your wrists, and, voilà, the bands heat the blood as it travels through the wrists' radial arteries. Here's the toasty part: The heated blood then makes its merry way to your digits.

—Carol Hildebrand and Lafe Low



the fittest



Let's Get Ready to FUUUMBLLE!!!

NEW PIGSKIN LEAGUE So what if your greatest athletic accomplishment was figuring out a way to push your glasses up while marching with a tuba? And who cares if you lettered as a mathlete but not an athlete? If you've got an Internet hookup, you can still be a pro football player. Or at least you can try.

Pro-wrestling impresario Vince McMahon is pumping his money from *WWF Smackdown* into the XFL, his new pro football league, and he's looking for players everywhere, including—until recently—over the Web. In the weeks immediately following last fall's draft, you could surf to his site (www.xfl.com), click on "Career Opps," and submit an online player application, no football experience required. The app asked questions about your college football achievements and awards, but it didn't specify varsity. So if you were the special-teams ace of your intramural squad in junior college, more power to you. Or like me, you could just have some fun and embellish, figuring this may be your only chance to kick some butt on the gridiron. They've taken down the application, but there's still a chance you can try again next year. Or just e-mail the XFL your stats. Maybe you'll blow 'em away.

Of course, there's no guarantee they'll ever respond. After all, if the XFL ignored my own application—which boasted such credentials as "Most Improved Player" on my fraternity's 1991 B team, great speed and the willingness to be a two-way player—it must be pretty selective. Then again, any league where Tampa Bay Buccaneer quarterback reject Scott Milanovich (one game appearance in four NFL seasons) is the first pick overall in the draft can't be that choosy, can it?

—Eric Berkman

PHOTO LEFT COURTESY OF AP

travel ticker...

Expedia, Travelocity and Uniglobe.com are the top three overall online travel agents, according to a recent Gomez.com ranking based on ease of use, customer confidence, site resources and relationship services....

Gorp.com, an outdoor recreation site, recently ranked hiking to Peru's Macchu Picchu as No. 1 on their list of the top 10 adventure travel destinations and activities. Whitewater rafting down the Cataract or Desolation Canyons in Utah finished a close second.... Until June 30, Northwest Airlines is giving new online customers who are already WorldPerks members in the United States, Japan or Canada 4,000 bonus miles for reserving their flights on

NWA.com.... In December, Amazon.com's top three most sought after travel titles were: *The Best American Travel Writing 2000*, edited by Bill Bryson and Jason Wilson (Houghton Mifflin, 2000); *Eyewitness Travel Guides: Italy* (DK Publishing, 2000 and *Eyewitness Travel Guides Millennium Edition: London*, by Michael Leapman (DK Publishing, 1999)....Lonelyplanet.com now offers a feature called eKno, which provides travelers with low-cost calls, voice mail, faxes, e-mail and an online travel vault that can store important travel documents. The service can be accessed from anywhere in the world.

—Joe Sullivan



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the fittest



Millennial Management

E-Leadership

D. Quinn Mills

(Prentice Hall Press, 2000, \$26)

JACK WELCH MAY GO DOWN in 20th century history as the finest corporate leader in the world. But in D. Quinn Mills' *E-Leadership*, you won't learn any of Welch's leadership techniques or strategies.

That's because Welch's 20th century leadership strategies aren't applicable in the new millennium, says Mills, a professor of business administration at Harvard Business School. Mills suggests that individual companies, like General Electric, will be replaced by much broader global networks that a single CEO will not manage. *E-Leadership* displaces conventional

thinking about leadership with new and radical propositions. For example, while traditional thinking says strategy drives structure, Mills claims reorganization drives strategy. While the old economy emphasized competition, the new economy runs on knowledge sharing and open exchange.

The e-leader doesn't have to be a tech guru but does have to exploit information technology to overhaul traditional corporate structures. That's quite a load for e-leaders to carry. Developing business opportunities via cooperative relationships, restructuring a company into global networks, building a global mind-set and decentralizing the company organization are just a few of the tasks on today's CEO's plate. Expediting process and energizing a staff are some others. Mills recognizes that there may be very few leaders who can juggle these tasks and reach success (as evidenced by the author's lack of good e-leader examples), but he recommends those looking to hit it big in the new economy best give it a shot.

—Lauren Capotosto

reviews

Love Your Customers

Loyalty Marketing for the Internet Age: How to Identify, Attract, Serve and Retain Customers in an E-Commerce Environment

By Kathleen Sindell

(Dearborn Financial Publishing, 2001, \$25.95)

IT CAN COST SIX TIMES LESS to retain customers than to attract new ones. With that in mind, Kathleen Sindell offers ways to secure loyal customers, covering topics like customer privacy and retention strategies. Sindell also helps readers understand electronic customer relationship management applications by translating software vendor babble into plain English. Through handy checklists and case examples, such as American Airlines' successful Web personalization efforts, this book can help companies become more customer-centric.

—Lauren Capotosto

Bandwidth Manifesto

The Last Mile: Broadband and the Next Internet Revolution

By Jason Wolf and Natalie Zee

(McGraw-Hill, 2001, \$24.95)

YOU SAY YOU WANT A REVOLUTION? Well, you know, if you think ADSL is a new soccer league, this book is a good primer on broadband and its evolution. You say you want some real solutions? Strategies that, as promised on the book jacket, will help your business "achieve bold new levels of productivity and profits"? All I can tell you is, brother, you have to wait. (A nod to the Beatles for inspiring this review.)

—Angela Genusa

ILLUSTRATION BY ARTVILLE

The Darwin Five

When Genius Failed:

The Rise and Fall of Long-Term Capital Management

by Roger Lowenstein • (Random House, 2000)

The Tipping Point: How Little Things Can Make a Big Difference

by Malcolm Gladwell • (Little, Brown & Co., 2000)

First, Break All the Rules:

What the World's Greatest Managers Do Differently

by Marcus Buckingham and Curt Coffman • (Simon & Schuster, 1999)

The One Minute Manager

by Kenneth H. Blanchard • (Jossey-Bass, 1982)

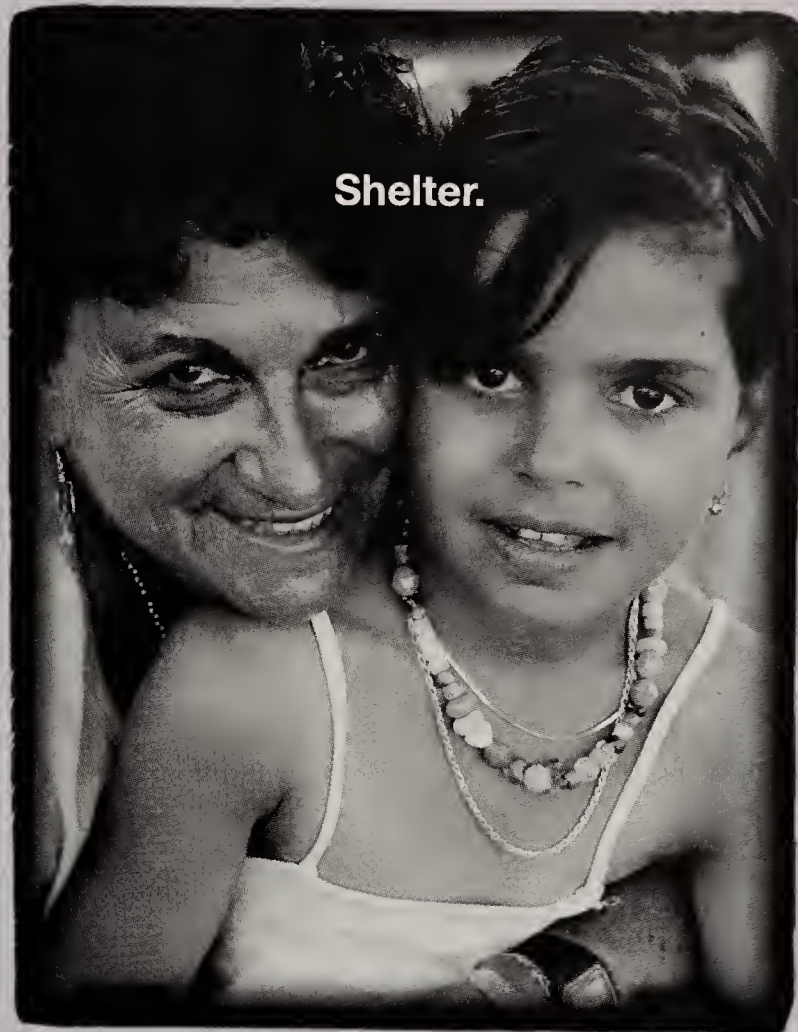
Telecosm: How Infinite Bandwidth Will Revolutionize Our World

by George Gilder • (The Free Press, 2000)

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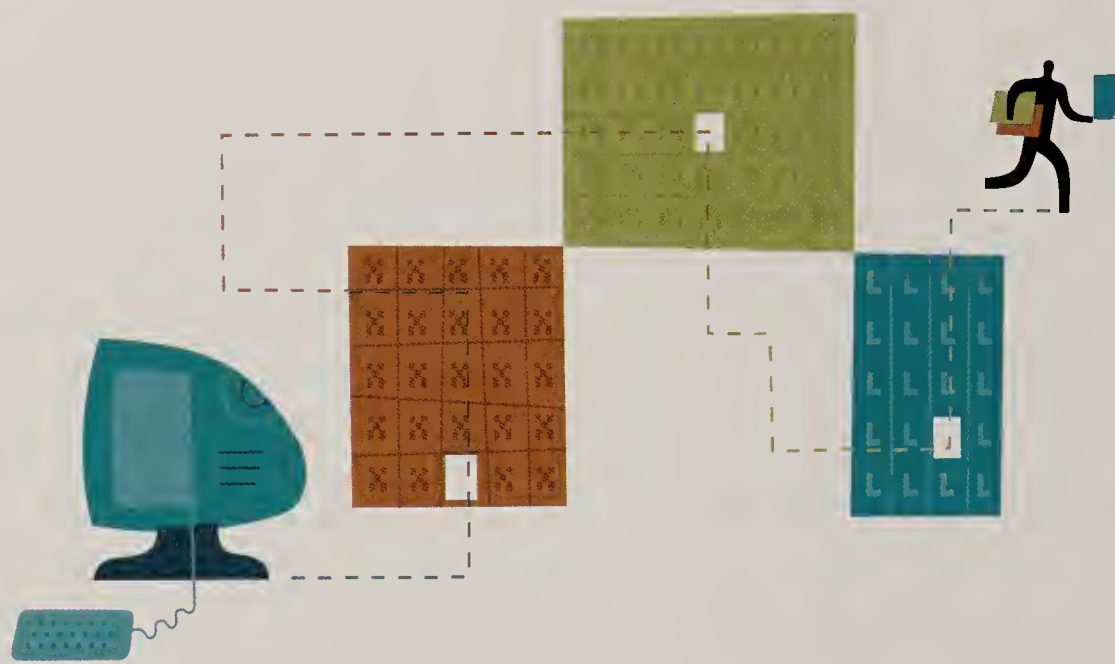
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What Is XML?



My CIO has mentioned XML six times lately, and I still don't know what it is.

You may have heard of HTML (hypertext markup language), one of the building blocks of websites that tells browsers how data should be laid out cosmetically onscreen. Extensible markup language (XML) goes beyond that, telling systems how information should be rendered and, more important, specifying exactly what kind of information it is. It is through XML, for example, that a system can recognize a string of numbers and text as an invoice or a set of computer-aided design images as elements in a parts catalog. With those built-in smarts, applications can share information more easily. And XML is considered highly extensible because developers can tailor the language to their unique data interchange needs.

What can XML really do for my business?

XML is likely to become the standard for automating data exchange between business systems, whether between systems in one company or between suppliers and customers. Let's say a customer orders a digital camera from a website. If the site selling the camera is using XML as the behind-the-scenes communications mechanism, the order pings an inventory database to

ensure the camera is in stock and hits a customer database to get shipping and billing information. XML can help tap into a third-party supplier's logistics system to arrange for delivery. XML could play a similar role for a customer relationship management application. A sales representative at a bank handling complaints about charges on a personal checking account would want to know if that same individual had commercial accounts with the bank to respond properly. XML helps put all the data in a similar format, allowing the different applications to share data without cumbersome conversions.

Does XML work only on the Web?

XML does have bearing beyond the Internet. While it describes both the content and structure of a piece of information, it performs these functions separately. That makes it easy to take content described in XML for display onscreen and present it somewhere else, say for example, on a wireless device. XML could also play a role in creating links among legacy applications since it's likely to become a viable way of representing complex data like financials information or manufacturing data.

Is XML the panacea for data exchange woes?

No. By itself, XML is nothing more than an alphabet—the basic building block for creating a data exchange platform. As support for XML builds, companies and industries will work together to create vertical and horizontal standards that will allow for this interchange. But that standards process is just beginning. And XML is complex beyond most people's reckoning. While anybody with a text editor and a few minutes can write a basic HTML document, putting your company's data in XML requires serious consideration by highly proficient people. For now, XML remains a work in progress. ■

Is there a technology out there that you just don't get? Let us know at learning@darwinmag.com.



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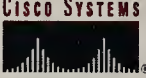
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